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MENTAL DISEASES

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MENTAL DISEASES
By R. H. Cole, M.D., M.R.C.P.

FIG. 1.

RIGHT HEMISPHERE FROM A CASE OF GENERAL PARALYSIS.

(Frontispiece.)

MENTAL DISEASES

A TEXT-BOOK OF PSYCHIATRY FOR MEDICAL STUDENTS AND PRACTITIONERS

BY

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WITH FIFTY-TWO ILLUSTRATIONS AND PLATES

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PREFACE

In this volume I have endeavoured to delineate the salient features of our present knowledge of Psychiatry in as concise a manner as possible. It has been my aim to treat the subject from a general standpoint, without unduly obtruding my own particular experience of asylum and hospital practice. Current literature has been freely consulted, and the latest developments in the Psychology and Pathology of Insanity have received attention.

The pathological illustrations are from original drawings by Miss A. M. Kelley. They have been made almost entirely from specimens at the Claybury Laboratory, by the kind permission of Dr. Mott, whose never-failing readiness to encourage and assist others in their work is well known. The clinical pictures are from photographs taken by Dr. W. E. Collier, of the Maidstone Asylum, to whom I desire to express my obligation.

A few explanatory charts and diagrams have been added, and some elementary reference has been made to the structure and vascular supply of the Organ of Mind, as such details I find are apt to be forgotten in the routine of clinical work. The description of the individual psychoses has been somewhat condensed, as I feel that further knowledge of them can best be acquired from practical demonstrations. Incorporated in the Legal Chapter are the main provisions of the Mental Deficiency Act. In addition to a special chapter on Treatment there is a brief account of Prognosis which I hope may prove useful.

I wish to express my indebtedness to Dr. J. A. Perdrau for revising and correcting the text and for making many suggestions and criticisms. I have also to thank Dr. Ralph Brown, of Bethlem Royal Hospital, for reading the proof-sheets.

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MENTAL DISEASES

CHAPTER I

INSANITY, ITS INCIDENCE AND HISTORY

In this preliminary chapter, which is a broad survey of the subject, it is proposed, firstly, to acquaint the student with some facts as to the prevalence of mental diseases, and to discuss what qualification is necessary before accepting the commonly expressed statement that insanity is increasing in our midst; secondly, to give a brief sketch of some of the historical records concerning mental diseases, and to trace the evolution of our ideas regarding insanity and its treatment. These matters do not perhaps belong to the scientific investigation of psychiatry, but nevertheless they are of interest and importance, and should receive the student's attention.

Sex.—Both sexes are about equally liable to insanity, although the etiology in each sex varies to some extent. In cases newly admitted to asylums the ratio of females to males is as 18 : 17, which is approximately the same as that in the general population. In the latter, although more males are born, the death-rate among them especially in early years is greater, so that females predominate. In asylums, however, the ratio of the female to the male sex tends to be slightly further increased, being as 19 : 17, which is mostly due to the fact of that fatal disease General Paralysis attacking men more frequently than women.

Age.—Insanity affects all ages, but is mostly developed in middle life, as might be expected. In children it is chiefly the result of arrested mental development.

Civil State.—The single and widowed states greatly preponderate over the married state, being in a proportion of more than 2 : 1. This is partly due to a law of Nature by which

abnormals do not tend to procreate, and it must be remembered that the solitary state is conducive to insanity.

Civilisation.—Insanity affects all races—Western and Eastern, white and black, civilised and uncivilised, those who work and those who are idle, those who are rich and those who are poor, those who are religious and those who are not.

When travelling abroad, the student should not lose any opportunity of visiting foreign asylums, where he will notice how insanity differs according to racial type. To some extent, however paradoxical it may seem, insanity must be regarded as an index of civilisation. Where specialisation and culture exist, natural variations, normal and morbid, become more evident. Amongst savages the grosser forms of mental weakness are chiefly exhibited, such as idiocy and imbecility, but even these failures of development are stamped out by the inexorable laws of Nature, by which the fittest alone survive. Moreover, the growth of altruism in primitive tribes is but feebly established, so that those members, who by reason of age or infirmity of mind or body are unable to assist in the common weal, get neglected and are apt to come to an untimely end. Added to this is the effect of superstitions, by which the diseased and afflicted not infrequently are put to death, so that insanity and disease are not common in such rude conditions of existence. As civilisation has spread, and life has become more complex, mental variations have become more apparent. These not only embrace the insane, but also those who, being endowed above the common herd, fail to develop further for lack of opportunity. Even in civilised nations some people become dull-witted and mentally disordered, in rural districts, from want of appropriate stimuli. Yet more frequently others succumb from that excessive stimulation, which is apt to follow in the path of civilisation in general. Looking backward, it would seem as if civilisation itself in time brings about its own destruction. A nation which has been pre-eminent declines owing to a failure of innate vitality, and the lessons to be learnt from it are that luxury and excesses or disobedience to Nature's laws, lead inevitably to a nation's doom.

Thus in our own time there is a searching inquiry into our conditions of existence and methods of life, in which extreme

views have been expressed by some authorities. Amongst them are those who preach that our race is degenerating at no uncertain rate, as evidenced by the amount of pauperism, of criminality, and of mental and physical deficiency, amongst us; and that to stay the process of general deterioration, radical Eugenic principles should be carried into effect, in the place of the present system of segregation. Too often, however, is it lost sight of, that the bulk of the average stock is sound enough, and that men of talent, and even of genius, continue to flourish as heretofore. True it is, that, in spite of modern methods of research, the recovery rate of insanity shows no material reduction; yet the statistics of our asylums need not paralyse our perspective altogether. The cost of insanity is indeed a burden that has to be borne, the yearly upkeep of our pauper asylums costing upwards of three millions sterling—apart from capital expenditure—yet Humanity teaches us that this is better than allowing those who are mentally defective or insane to roam about, uncared for, as in the past.

The Alleged Increase of Insanity.—There is no satisfactory means of gauging the ratio of mental disease in the community, for there is no reliable information as to the numbers of the uncertified insane. Confining our attention to the certified insane, it cannot be denied that their numbers increase year by year, and that in a decade the percentage increase is double that of the general population.

To compare figures roughly: At the last census, in 1911, the population of England and Wales stood at 36 millions—and at the previous census in 1901 at $32\frac{1}{2}$ millions—showing a satisfactory increase in the decade of $3\frac{1}{2}$ millions, or $10\frac{1}{2}\%$. The annual returns of the certified insane for those years show for 1911—133,157 as compared with 107,944 for 1901, or an increase of about 23%.

Without unduly decrying the amount of this increase, for which many explanations are forthcoming, one is compelled to make the remark that, after all, these numbers are small in comparison with the millions of our population—considering that there are 267 sane persons to every individual who is certified as insane!

When the uncertified mentally deficient—the number of whom is estimated at about the same number as the certified insane—

are segregated from the general population and are added to the total, a further state of alarm will no doubt be created.

Of the causes that lead to increased registration of the insane, involving the accumulation of insane persons, it cannot be denied that the increased popularity of institutions is one of the most important. Mild mental cases, and many old people are sent away now to asylums, that were formerly kept at home, or housed in the workhouse infirmaries. The four-shilling grant from the Central Exchequer to the Guardians for asylum care has also helped in this direction. The statistics, it must be remembered, are made up of insane persons, more than 90% of whom are paupers, who, when they improve, have not the outside means of supervision that obtain with the private class, and are therefore not so readily discharged. When the figures relating to the private class are examined, there is but slight increase of insanity in this class. If any undue influences causing an increase in insanity were in existence, they should show themselves quite as conspicuously in private patients as in pauper patients. It is satisfactory to note that during the last few years the total admission rate to the ranks of insanity has fallen slightly, as the accompanying chart (Fig. 2) illustrates

Annual Admissions are about		22,000
Annual Discharges recovered	8,000	
Annual Discharges relieved or not improved ..	2,000	
Annual Deaths	10,000	
		20,000
Leaving a yearly surplus of		2,000

—which if the odd figures were reckoned would approximate to 2500 (2% of the whole) to be added annually to the 130,000 to 140,000 to which the sum-total of insanity is now reaching.

Transfers in single care, or from one institution to another, which number nearly 3500 annually, do not of course affect the figures. The recovery rate is 33% of the admission rate; of patients discharged recovered unfortunately at least one third relapse at some time or another. The death-rate is 9% of the average insane population (or 90 per 1000 as compared with 14 per 1000 in the general population).

The conclusion to be drawn from the foregoing figures is,

that there is an increasing number of certified insane persons out of proportion to the general population, but that this increase is almost entirely confined to the pauper class, and is largely due to increased registration of insanity, and to accumulation of insane persons. The Lunacy Commissioners who are best qualified to form an opinion state "that if

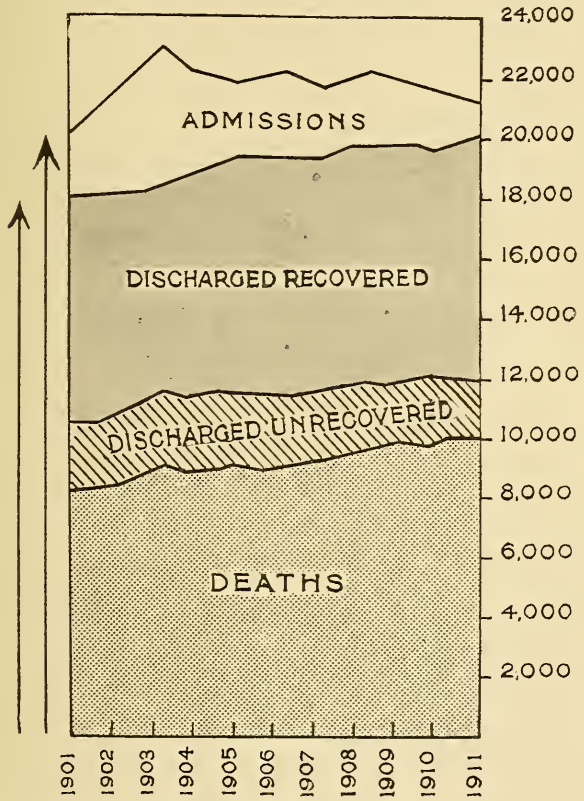

Fig. 2.—Chart showing the excess of admissions over discharges and deaths of the certified insane in England and Wales, from 1901 to 1911.

insanity is increasing at all, it is doing so very slowly, and by no means proportionately to the increasing numbers of insane persons under care." (Report LXV.)

Historical Data.—Taking a cursory glance at the past, it would appear that so far as history goes there never was a time in which insanity was not recognised in some form or other, although the frequency of its incidence can only be

conjectured. In primitive times it was invariably attributed as coming from the gods, and its treatment confided to the priests. For the most part, insanity was regarded as due to evil spirits and demoniacal possession which required exorcism; but in other cases it was ascribed to divine inspiration, commanding respect and even worship, the latter being still evident in Mohammedan countries.

In Egypt more than 5000 years ago, mental troubles are mentioned on papyri, and temples existed for the purification of the insane. Alcoholic intemperance occurred, and certain persons were advised to be abstainers. When in later times Alexandria was at its zenith, what records remain show that a fairly accurate knowledge of insanity existed then. In the Bible, madness is referred to amongst the Hebrews. Saul suffered from fits of jealousy and melancholy, and Nebuchadnezzar for years was deluded, believing himself to have been transformed into an animal, whilst David's behaviour before the King of Gath is a conspicuous example of feigned insanity.

Mental disorder is also mentioned by Greek writers: for example the story of Hercules committing homicidal acts in epileptic fury, and the feigned insanity of Ulysses when he was compelled to join the army against Troy.

To Hippocrates the Father of Medicine, who lived 500 B.C., must be ascribed the honour of being the first to establish insanity and epilepsy as natural diseases due to disorders of the brain, and requiring the skill of physicians rather than that of priests. He also recognised the effect of bile, and his divisions of insanity are still the foundation of most modern classifications. Plato, in his *Republic*, made provision for the insane, and Aristotle had some knowledge of the nature of hallucinations, but he appeared to neglect the brain, and to place mental affections in the region of the heart.

Amongst the Romans, we read of insane characters in Horace, and other writers. It was the Roman custom to throw their infant weaklings over the Tarpeian Rock, and restraint and flogging for mental disease were much in evidence, the notion of possession by evil spirits being still popularly held. It must, however, be acknowledged that some of the enlightened Greek and Roman physicians disapproved of this notion, and advocated more humane methods of treatment.

In the transitional period of the Middle Ages, the insane were again almost entirely in the hands of ecclesiastics, and the knowledge spread by Hippocrates lay dormant. Mental diseases were attributed to demons. Dancing manias were frequent, and among witches there were many insane people who were burnt at the stake.

When we come to the Renaissance, we are indebted to Shakespeare for his masterly delineations of characters illustrating insanity—*e. g.* King Lear, Ophelia, Lady Macbeth and Hamlet, whilst the congenital fool (*e. g.* Caliban) is conspicuous in some of his plays. The character of Hamlet is particularly interesting, as it is usually regarded as a good example of feigned insanity. In the seventeenth century the physician and anatomist, Thomas Willis, revived the doctrine of the relation of mind and brain, that had been recognised only by a minority of the sages of the past. At the beginning of the nineteenth century Gall and Spurzheim founded their phrenological school, which held sway until the present scientific era of cortical localisation was established.

From the ecclesiastics in the dark ages, the care of the insane passed gradually into the hands of lay speculators. There were but very few asylums in existence, and the old-fashioned madhouses came into vogue to supplement them, a great number of the pauper insane being housed in prisons. Many of these houses were grossly mismanaged, and there was no legal visitation or protection for the insane except for those possessing property, the latter being in the hands of lawyers and the Court of Chancery. Even at the beginning of the nineteenth century the condition of the insane was pitiable in the extreme. The mental breakdown of George III did more than anything else to rouse public attention to the existing plight of the insane. The poorer classes especially were disgracefully housed, roughly used, poorly clad, and had to sleep on straw beds, in dark ill-ventilated cells, with no facilities for cleanliness. Fear was inculcated into those that resisted, by a system of violence on the part of the "keepers." Chains and manacles were the rule rather than the exception, stripes were ordered, and revolving chairs were resorted to. The head was shaved and blistered, and patients were plunged suddenly into "surprise" cold baths. On the supposition

that patients needed "lowering" treatment, they were underfed, Antimony was prescribed in heroic doses, emetics were administered, and copious purging and bleeding were resorted to. The only sedative known was Opium, and patients were occasionally narcotised to death. The relics of the instruments of barbarism used in olden days are to be seen in the museums of Bethlem Hospital and other old asylums.

There exist at least three different illustrations of the unfortunate man William Norris, who for nine years was confined in chains, and could only move a distance of twelve inches. The one here depicted (Fig. 3) is taken from a sketch from life by G. Arnald, A.R.A., which was exhibited in evidence before the House of Commons by a private Committee in 1815. It was etched by George Cruikshank and printed for William Hone, who served on that Committee. A reproduction appears in *William Hone : His Life and Times*, by F. W. Hackwood, recently published by T. Fisher Unwin, in which volume is to be found a full account of this poor maniac, as well as in the *Story of Bethlehem Hospital*, by the Rev. E. G. O'Donoghue, the present Chaplain of that institution.

Bethlem Hospital, now a model of efficiency and widely renowned, has, during the process of ages, undergone profound changes. It was originally founded as a Priory by the Bishop of Bethlehem in 1247, on the site of Liverpool Street and the G. E. R. station. It was seized by Edward III in 1375, and a year or so later the patients of a mediæval asylum in "Trafalgar Square" were transferred to the care of the Bishopsgate hospice. Henry VIII granted a charter in 1546–7, handing over the building to the City of London, for the use of the insane, and eleven years later it was transferred to the Governors of Bridewell. This was the first *Bedlam* as mentioned in the plays of Shakespeare, but as early as 1377 there is record of insane patients residing there. In 1619 the first regular medical officer was appointed, and it soon became manifest that the Hospital was not large enough and was unfit for its work. Therefore, in 1675, the second Bethlem, as known to Hogarth, was built at Moorfields. It accommodated 120 patients, and was more or less of a public show-place. This was superseded by the third and present Bethlem opened at Lambeth in 1815, to which

Fig. 3.—The old system of treatment.

additions have been made, especially between 1838 and 1852, resulting in the present stately edifice. It is pre-eminently the registered hospital for acute mental disorders in the educated middle classes, and with its splendid revenue it is able to do valuable philanthropic work; it is also an important centre for teaching purposes. Since 1871 it has had a branch convalescent establishment at Witley..

The abolition of mechanical restraint in the treatment of insanity, which marks the present humanitarian epoch, is one of the most brilliant achievements in the annals of Medicine. It began with Pinel at the Bicêtre Asylum in Paris at the time of the French Revolution, and simultaneously in England with William Tuke, who founded the York Retreat in 1792, and was followed by the strenuous efforts of Esquirol in France, of Rush in America, and of Conolly and Gardiner Hill in England, the former at Hanwell, and the latter at Lincoln, so that when Queen Victoria ascended the throne a new era for the insane had arisen. The events described by Charles Reade in *Hard Cash*, and the story of *Valentine Vox* by Henry Cockton, although prejudiced and greatly exaggerated, no doubt had some effect on public opinion. In recent times with the wider circulation of newspapers, there has been no demand for such sensational literature, although an American production, *The Mind that Found Itself*, by Clifford W. Beers, is to be noted.

Looking at the evolution of legislation affecting the insane, it must be pointed out that it was not until 1828 that it was enacted that patients of the private class sent to asylums should have the attestation of two medical men. Before that, only one was required, and in the previous century, none at all. Pauper patients were treated merely as prisoners.

As a result of the report of a Parliamentary Committee in 1844, Lord Shaftesbury brought in a bill establishing the Board of Lunacy Commissioners, with the duty of inspecting regularly all asylums in England and Wales. Previous to this, the Royal College of Physicians had been entrusted with the nomination of certain physicians to visit the asylums in the Metropolitan District. The management of the registered hospitals and better class asylums for private patients had greatly improved, but there was no adequate accommodation for the pauper insane. In 1808 powers were granted to the

local Justices to build asylums out of the local rates, but this was not made compulsory till 1845.

In 1890 the duties of asylum administration were transferred from the Justices to the newly elected County Councils, to whom chiefly belongs the credit of erecting the new palatial buildings for the insane poor. The plight of the idiot, the imbecile, and the congenital feeble-minded, although long recognised, was slow to receive attention; it was not until 1846 that an idiot asylum or training establishment was built for them in England. Even at the present time the accommodation for these defectives is very insufficient. In 1890, with the introduction of the new Lunacy Act, the admission orders for private patients to asylums by the relatives were supplemented by those of magistrates. This further judicial incursion into the domain of Medicine has, on the whole, proved beneficial in allaying public suspicion, although it arose largely from false charges in connexion with the detention of alleged sane persons, none of which could be substantiated before the Parliamentary Committee of 1877.

The latest legislation embraces provision for the Mentally Deficient, who do not come within the scope of the Lunacy Act, and who at present are at large to the detriment both of themselves and of society. It is noticeable also that the Central Authority for Lunacy, which hitherto has been vested in the Lord Chancellor, is gradually being transferred to the Home Secretary, in company with other medical departments.

The illustration overleaf (Fig. 4) is taken from one of the modern asylums of to-day, where open-air treatment and female nursing for acute cases are much in vogue. It exhibits a marvellous change that has taken place within the memory of many psychiatrists.

The general orderliness and quietude of the majority of patients in the asylums of to-day are features to be proud of, in comparison with the past. Greater liberty is allowed to patients. The nurses are properly trained, and a humanitarian hospital system has been instituted. Mental pathology, linked as it is at last with general Medicine, cannot fail to open up a fresh vista from which much progress will result in the more scientific treatment of insanity. The mystic veil that has too long shrouded its study has been lifted; scientific

methods are penetrating into mental problems, and are replacing the abstruse speculations of the past. Psychological laboratories are being established, and the best asylums are becoming equipped with pathological departments in which enthusiastic workers are searching for truth. Diplomas in Psychological

Fig. 4.—A modern method of treatment.

Medicine have been instituted, the general hospitals have their mental out-patient cliniques, and the public are alive to the important issues underlying the facts of heredity, and their bearing on the race. The general causation of insanity, and its prevention, are widely discussed. Insanity is now generally recognised by the laity as disease of the brain, and the mystery attaching to it has in great measure disappeared.

CHAPTER II

MIND, CONSCIOUSNESS, SLEEP, MEMORY

Psychology in relation to Insanity will form the basis of this and of the three succeeding chapters. It is intended to give an outline of normal mental processes, and to describe the disorders they are liable to in the symptomatology of Insanity. The physical substrata underlying these mental processes will also receive special attention from the neurological point of view.

The subject of Mental Diseases or Insanity, or what is sometimes called Psychological Medicine or Psychiatry, is daily becoming more important to the student and practitioner. For the clearer understanding of the symptoms of the mind diseased, it is felt that some brief reference should first be made to mental processes in a state of health. This is rendered necessary, since in their preliminary studies most medical students have paid but scant attention to psychology in the academic sense. This is mostly due to the inherent difficulty of the subject, and to some extent also to the amount of obscure terminology that is brought into play. Authors are naturally apt to look at the problems of mind from their own special standpoint. The philosopher, the theologian, the lawyer, and the physician, each tinges the same subject-matter with his own particular aspect, and any attempt to correlate these views often leads the student into a maze of confusion. He is therefore apt to leave the subject, which he concludes is composed of idle words, devoid of meaning and without interest or practical utility. The medical student, trained as he is to habits of observation and experiment, finds himself confronted with problems in which something more is now required of him when he begins the study of Psychological Medicine. The methods of objective study which he has developed so far are

sufficient for a right understanding of the physiology of the senses. He has now, however, to bridge a chasm for the apprehension of the physiology of mind or those mental operations, in which not only are these methods necessary so far as they can be applied, but also the study of the subjective mechanism of his own mind must take part.

Mind is the power a person possesses of Thinking, Feeling, Desiring, and Willing, with the accompanying processes of Memory and Attention, by which means also a person becomes aware of his surroundings and their relation to Space and Time.

These *cognitive*, *affective*, and *conative* functions, as they are sometimes called, we shall find, as in other departments of Medicine, are associated with a person's organisation or structure, which is derived from his parentage and from his experience, training, and education.

Psychology does not, however, confine itself to the study of mental states only, but is regarded as having a wider application by McDougall and other authorities. It concerns itself with the conduct (or behaviour) of animal life in general, using the word conduct as the sum of purposive activities by which an animal adapts itself to its surroundings. The sister or subscience of Ethics treats of right conduct, that is, conduct as it ought to be, or the special study of the moral and other sentiments.

Objective or Physiological Psychology is that branch of the subject which treats mostly of experimental methods, and which is best adapted to the special senses subserving our mental life.

Subjective Psychology necessitates self-analysis or *introspection* and *retrospection* into our present and past mental states; what really takes place in the minds of others is only an inference by the inquirer, and is arrived at by conjecture, and requires confirmation by objective methods so far as they are possible.

What the essence of Mind is, resolves itself into a pure speculation. What is matter—never mind: what is mind—no matter, is an old axiom of the *dualist* school. Dualism means either *parallelism* or *interactionism*. In the former there is regarded concomitance between psychical and physical processes with no connexion between them, whereas in the

latter, interaction is supposed to exist between the mental or spiritual world and material or nervous processes.

Both matter and mind can be considered as manifestations of force or energy in Nature from the *monist* point of view, and the *materialistic* or *spiritualistic* hypotheses as to body and mind may be two aspects of the same thing. A useful analogy of the relationship of pyschical to physical processes is that of the production of magnetic force by electrical currents. Although, strictly speaking, mental and material phenomena should not be spoken of in the same terms, it is however helpful to the student, so far as is possible, to have psychological states and their

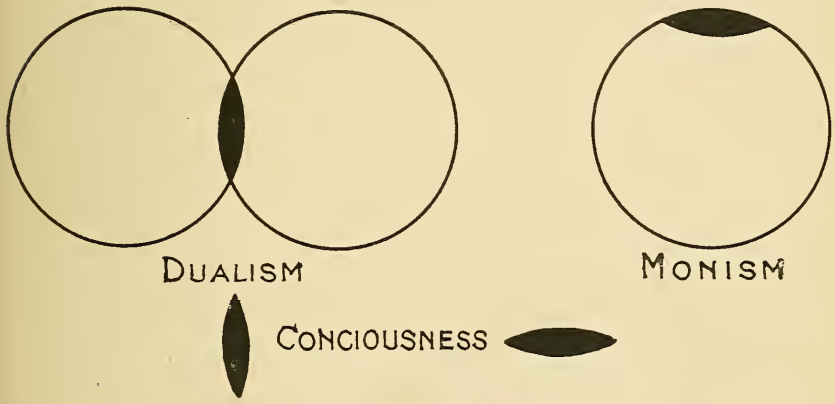

FIG. 5.—Dualism and Monism.

neuronic bases described side by side, and an occasional admixture of terms is almost excusable for want of precise terminology.

Without entering into the question of sensibility in the vegetable kingdom or even in inanimate matter, allied to that producing sensation in the animal kingdom, the query is whether mental and other phenomena of life can be explained on mechanical principles only, or whether there exists some vital essence or soul, as the Animists assert. The student may, in either case, regard the dawn of mind best from the Evolutionary standpoint. He then finds what may be inferred to be mental phenomena arising when an animal by means of its specialisation possesses a nervous system, involving reflex arcs by which it adapts itself to its environment, and the higher the complexity

of that nervous system, the more surely do, what we call, mental phenomena present themselves. It is, however, when, in the scheme of creation nervous ganglia conglomerate into what we call a Brain, that we are still more certain in our conviction that there exists what may be called Mind. As we study the ascent of the animal kingdom so do we find the gradual development of Mind *pari passu* with the evolution of the Brain. Yet even this self-evident fact is comparatively new to the knowledge of the majority of the human race. The ancients for the most part, with the exception of Hippocrates and Galen, considered the Mind as something not only independent of the body, but they possessed very hazy notions of its connexion therewith. They imagined the Mind to reside perhaps in the heart or abdomen, and they regarded the brain merely as a gland to cool the blood, which supposition received the support of so eminent a philosopher as Aristotle. That the Brain is the organ of mind now appears as a truism scarcely worthy of mention, as does the fact that the part of the brain that subserves psychical functions is the Cortex of the Cerebral Convolutions. Here also reside the supreme trophic centres for the nutrition of the body, the Cerebellum being regarded as a co-ordinating organ with the labyrinth for the muscular mechanism and having afferent and efferent connexions with the Cortex, the lower brain being composed of centres for the affective organic and vital processes, and containing stations and paths of conduction to and from the Cortex and the other parts of the nervous system.

Consciousness is fundamentally inexplicable. It is composed of a unity of ideas, feelings, volitions, etc., and is the term used when mental functions are in their fullest vigour.

In its subjective sense—*Subject consciousness*—the possessor becomes aware of his *Ego*—or that particular mental state that occurs at the moment, which is synthetically made up of the sum of impressions from within and from without then prevailing. These embrace sensations, perceptions, ideas, feelings, desires, and volitions, together with the memories of past experience. The *Self*, *Personality*, or *Identity* of an individual is the result of the memories of the "Ego" at different times, and is dependent on the specific essence or nature of the mental constitution, or, in other words, on

the quality and elaboration of the cortical nerve elements. It must also be supposed to include to some extent the corporeal nature of the person in question, for when a person speaks of himself he means his body, soul, and spirit; interpreting the word "spirit" as what we usually call "mind," the word "soul" as a unifying principle in its psychological and religious significations, and the word body in its material sense. By the term *Self-consciousness* is meant that an individual is given to introspection, and any undue intensity in this direction is accompanied by abstraction, and a neglect in the influences of the environment, which occurs particularly in states of depression and day dreaming. In its objective sense *Object consciousness*—the mind develops its tendencies in discriminating its perceptions of the external world.

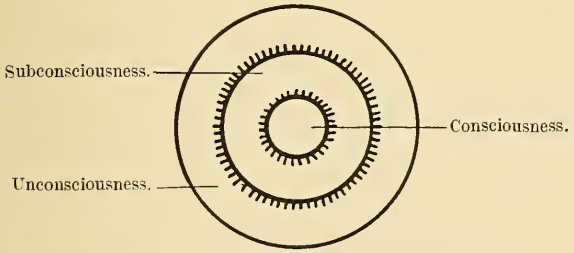

Fig. 6.—Graphic representation of mind.

Consciousness exists in all degrees; its stream may be said to flow in different directions, so that a *fringe of consciousness* is sometimes spoken of, below the margin, limen, or threshold of which is postulated *Subconsciousness*, in which mental functions of a dim kind occur fading into the realm of *Unconsciousness* (Fig. 6). Here the mind may be said to be in abeyance, yet the mechanism is such that the springs of mental action exist in the lower nervous connexions in which there is no breach of continuity from the lower to the higher. Subconscious mental activities have in recent times attracted much attention, especially in the investigation of Dreams, Hysteria and other allied conditions, in which probably the subconscious elements of mind are the principal seat of disorder. It may, indeed, be postulated that there is a constant flux of subconscious sensations, ideas and feelings

to the field of consciousness and vice versa in every day life, and that subconscious manifestations reveal the essential mental constitution of the person.

Disorders of Consciousness. — Stupor and Coma, whether due to toxins from within, or artificially induced by drugs or anæsthetics such as Chloroform or Ether, consist of different degrees of loss or clouding of consciousness, with a distinction peculiar to each, dependent on more or less complete dissociation. Dissociation may also lead to a division of the unity of consciousness into two or more states. Thus arise cases of *Double- or Split-consciousness*, the one personality conversing with the other personality, which not infrequently happens in Insanity and Delirium, or the normal state may alternate with a delusional state with entirely different memories, as in Somnambulism or Trance, and in some cases of Epilepsy and Hysteria. Disorder of the subconscious mental life of the individual exists in insanity and allied conditions, as well as disturbance of full consciousness, and it has been much investigated by psychologists of the Freud school.

Sleep is the natural state of unconsciousness which habitually occurs during about eight out of each twenty-four hours in the adult human subject. It is a conspicuous example of the rhythm which pervades Nature. During this period of rest or comparative functional inactivity the acid neural products of fatigue are removed, the store of intra-molecular oxygen is replenished so that tone is restored, and consciousness returns. Unconsciousness is usually deepest about one hour after falling asleep, the curve rising steeply during the first hour, declining until the third hour, and diminishing thereafter by only a slight gradation till the person awakes (Fig 7).

The curve of intensity of sleep varies, however in some individuals, and is dependent on climatic and other surrounding conditions. Some cases show a slight second curve, especially in children, in whom normal sleep is naturally more prolonged. In others the primary curve may not reach its acme till the third hour, and this is stated to occur in persons whose maximum of mental efficiency is reached later in the day rather than in the morning. During sleep the vital processes are reduced, heat production is lessened and the muscles are relaxed. The heart and respiration are slowed.

The blood pressure is reduced. Both the splanchnic and cutaneous vascular areas are dilated and the skin is apt to perspire. The intra-cranial blood-flow is diminished and the cortex of the brain is anæmic. The pupils are contracted and the eyeballs tend to roll upwards.

Various theories have been formulated to explain the *physical* basis of sleep. The more or less rapid transition from consciousness to unconsciousness would appear to be due to cortical

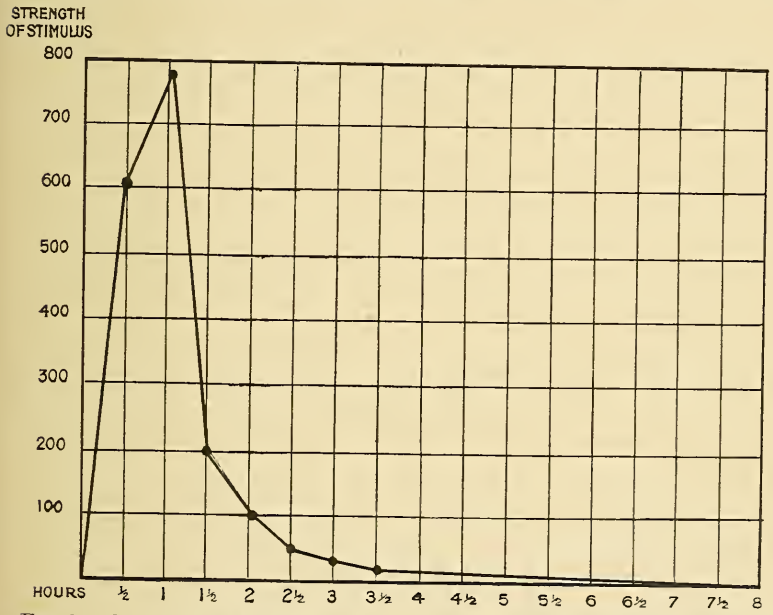

Fig. 7.—Curve illustrating intensity or quality of sleep as shown by strength of stimulus (a falling ball) necessary to waken a sleeping person (after Kohlschütter).

vasomotor influence of which but little is known. Lugaro speculates on hypothetical grounds that the gemmules on the dendrons protrude during sleep, others suggest that they contract and cause dissociation. It may be that the products of fatigue affect the cortical neurons to such an extent that the nervous potential is at a very low ebb, and that their synapses require recuperation for the transmission of impulses, the blood-vessels aiding secondarily in the process. In any case it should be noted that auto-suggestibility of sleep and outside influences also play a part.

Dreams occur mostly in light sleep, or in the last or hypnagogic stage of sleep, not infrequently in the few moments before waking up. Dreams exhibit the subconscious life of a person deprived of any volitional control, and they reveal past experiences in a disorderly and grotesque manner. They have also but little relation to Time, so that incidents traversing long periods are distorted and revived during a few seconds, and when painful emotion exists a nightmare results. The interpretation of dreams has recently been the subject of much attention by Freud and other psychologists, who sometimes consider them as distorted or imaginary wish-fulfilments that escape the censorship of the Will. From the *physical* standpoint dreams may be regarded as due to dissociated islets of the cortex being in a state of comparative activity.

Disorders of Sleep.—The quantity and quality of sleep which are natural to a person vary with age and with idiosyncrasy. Sleeplessness, or disordered sleep accompanied by excessive dreaming, may arise from reflex disturbances from within or from without, or it may herald an attack of insanity. Amongst the causes must be included emotional disturbances, bodily diseases, and toxic agents. In neurotic children the sensorimotor centres are prone to become active so that they talk in their sleep, and are occasionally given to sleep-walking and to night terrors.

Insomnia may be regarded both as a symptom and as a cause of insanity. It is a feature of Acute Mania, Acute Melancholia, and Delirium, whilst it is usually present in Confusional Insanity and Alcoholic Psychoses. Sleep is generally excessive in Amentia, and also in Dementia, especially when accompanied by Organic Brain Disease, and in Senile, Epileptic and other conditions such as Narcolepsy. Bad dreams are frequently a warning of a relapse in recurrent insanity.

Insufficiency of sleep has a pernicious effect on the nutritional processes of the body and when prolonged may lead to a fatal issue. To the psychiatrist a sleep chart, showing the amount of sleep in an acute case, is as important as is a temperature chart in ordinary diseases (Fig 8).

Hypnosis is a special form of artificial sleep induced in certain people whilst under the influence of another person. In this condition, suggestions from the hypnotiser are rein-

forced, and are therefore likely to be carried into effect, and this is so especially in the secondary Somnambulistic stage that can generally also be induced.

Only a certain type of individual can be hypnotised, and as his complete attention and co-operation in the process are requisite it can scarcely ever be applied in insanity with success.

In order to hypnotise a patient several trials may be necessary. He should be placed in a passive state, free from external

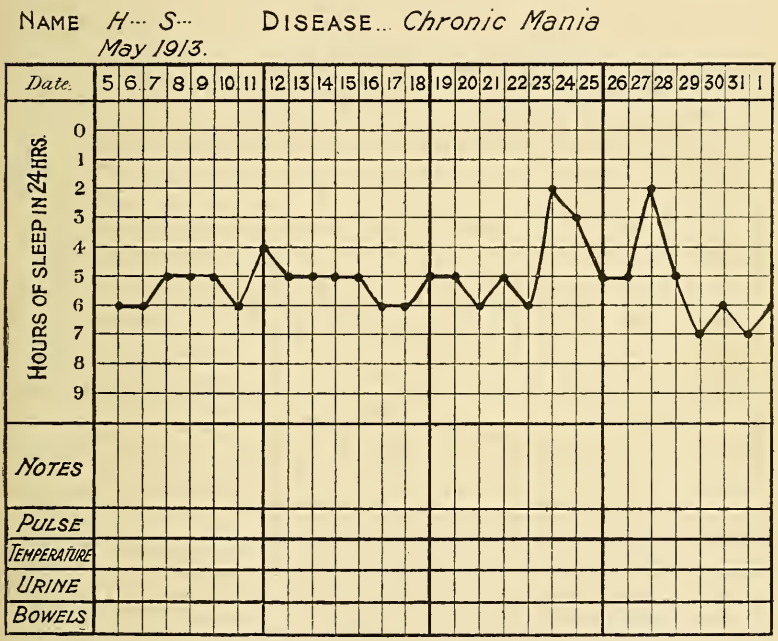
NAME H··· S···
DISEASE... Chronic Mania
May 1913.
Date.
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1
HOURS OF SLEEP IN 24 HRS.
0 1 2 3 4 5 6 7 8 9
NOTES
PULSE
TEMPERATURE
URINE
BOWELS

FIG. 8.—Chart showing daily amount of sleep.

influences as far as is possible so as to be dominated by the personality of the hypnotiser, who uses various means to suggest sleep. If sleep be induced, the patient is then receptive to other suggestions by the hypnotiser, and it is well to include the suggestion that the patient cannot be hypnotised by anyone who is not a medical man. It should be mentioned that the condition is frequently imitated by fraud. In some unstable persons a transient hypnoidal state short of hypnosis can sometimes be induced in which suggestions have more effect than

in the normal waking state; this is closely allied to the hypnagogic stage of ordinary sleep. The most probable explanation of the *physical* basis of hypnosis is that it is due to a slight degree

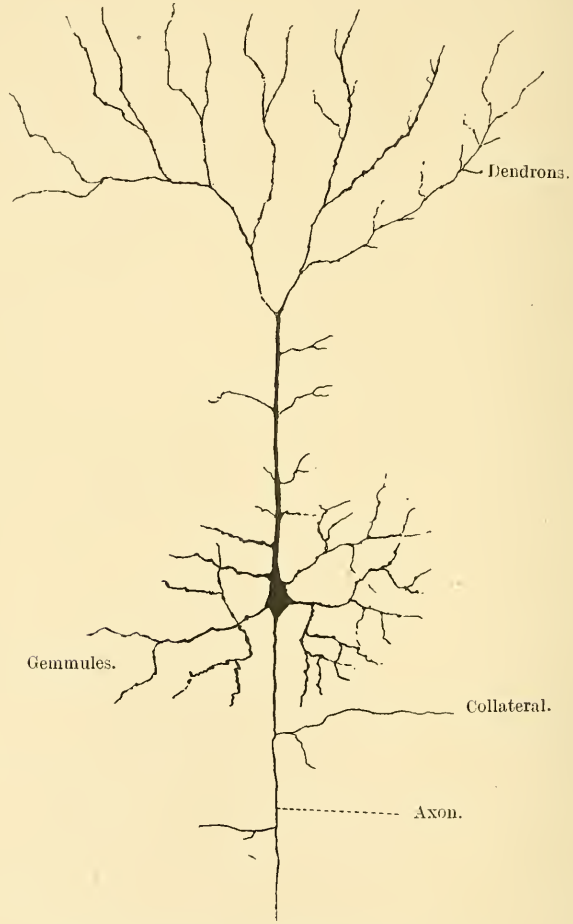

Fig. 9.—The neuron (Golgi's silver stain × 60).

of dissociation in which there is partial restriction of the functional activity of the cerebral neurons.

The Physical Basis of Consciousness.—The neuron theory is practically accepted by neurologists, and it is probable that the highest neurons of the cerebral convolutions and their

connecting media form the physical substrata for Consciousness. Partial destruction of the cortex cerebri entails deficiency and disorder of mental operations, whilst a severe concussion, shock, or circulatory disturbance suspends Consciousness for a time, and they not infrequently leave serious after-results. The most probable hypothesis is that the essential cortical element—the *neuron*—functions by contact with others. The *dendrons* or protoplasmic processes, as shown by certain staining methods, have been observed to have minute excrescences called "gemmules," which according to some authorities are thought

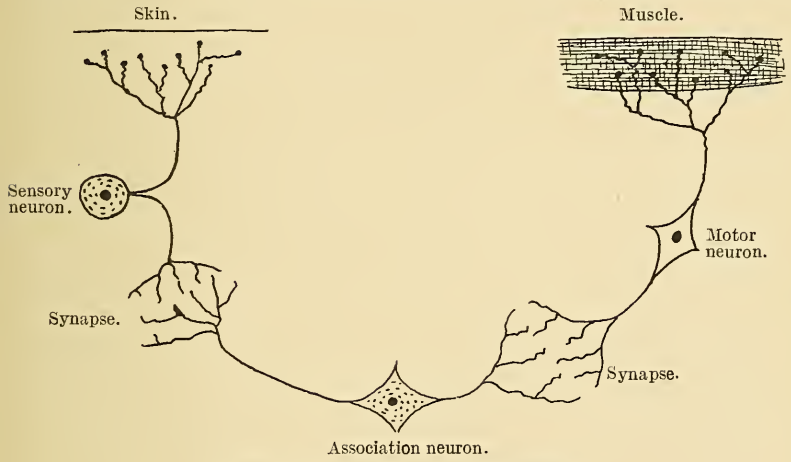

FIG. 10.—Diagram showing synapses.

to have amœboid powers of protrusion or retraction during repose and activity. By others these are regarded as artifacts. The actual points of contact of nervous processes are called "synapses," which seem to act as points of resistance in the transmission of impulses. These points of resistance may be regarded hypothetically as due to impressionable cementing or receptive substance. Each cerebral neuron or nerve cell has an *axon* or axis cylinder process with its branching collateral processes by which it becomes connected by means of synapses with the dendrons of other neurons in a system of terminal arborisations. In the lower nervous levels the synaptic resistance is practically absent, the processes becoming continuous rather than contiguous. The

body of a neuron contains a nucleus and nucleolus which have been considered as having trophic properties for the neuron. The matrix consists of fibrils which normally do not stain (*achromatoplasm*) and are probably connecting links between the processes. In the matrix are certain granular bodies—*Nissl bodies*—which stain deeply with methylene blue (*chromatoplasm*) and are possibly also of trophic function. It has been alleged that they do not exist in the living nerve cell. The rest of the matrix is in direct continuity with the different processes and is concerned with the generation and accumulation of nervous energy (neurin) and the transmission of nervous impulses from one neuron to another. These impulses are the result of receptive stimuli which set up physico-chemical changes (katabolism) producing a nerve current. The transmission of a nerve impulse, which we learn from physiology travels along a nerve fibre at the rate of 30 metres per second, overcomes the resistance of the synapses at the points of contact when as a result of stimulation a neuron becomes overcharged, and thus neurons are affected in other centres, where the energy is expended, or it is finally diffused in muscular action.

The storage of nervous energy is dependent on the anabolic functions of the neuron, by which reserve or potential energy is obtained. This energy is generated from the surrounding lymph, but it also arises largely by transmission from the lower levels of the nervous system, and is derived for the most part from the muscular and organic viscera which replenish the higher levels. In the natural process of Senile decay the cortical neurons atrophy, in great measure from this want of *vis a tergo* especially from the viscera.

Consciousness being concerned with the activity of the highest neurons of the cortex cerebri, fully charged with energy, it may be said to be connected with the passage of nervous impulses from neuron to neuron in the association and other areas. In these areas, organisation, which is the feature in the lower levels of the nervous system, is only in process of formation as mental growth proceeds. It is possible that the action of certain drugs, and that of the products of fatigue, may affect the conductivity of the adjoining synapses in these areas, as much as, or even more than, that of the neurons themselves.

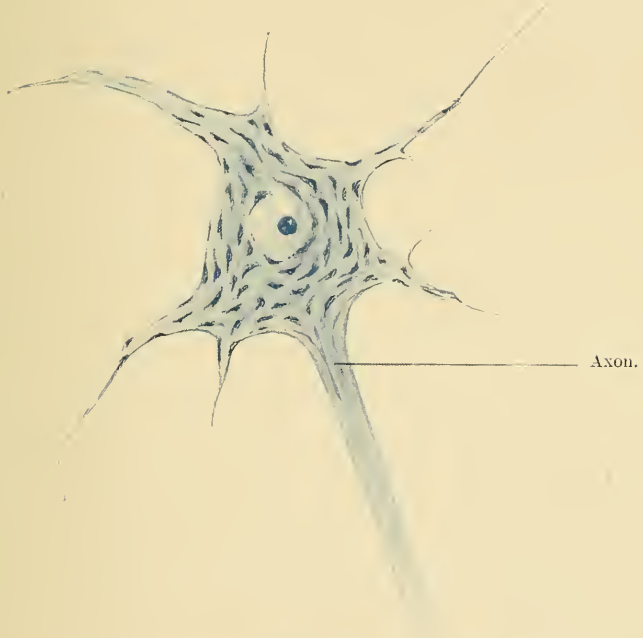

FIG. 11.—The normal nerve cell. (Nissl × 400.)

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FIG. 12.—Strip of normal motor cortex, showing nerve fibres. (Weigert-Pal × 45.)

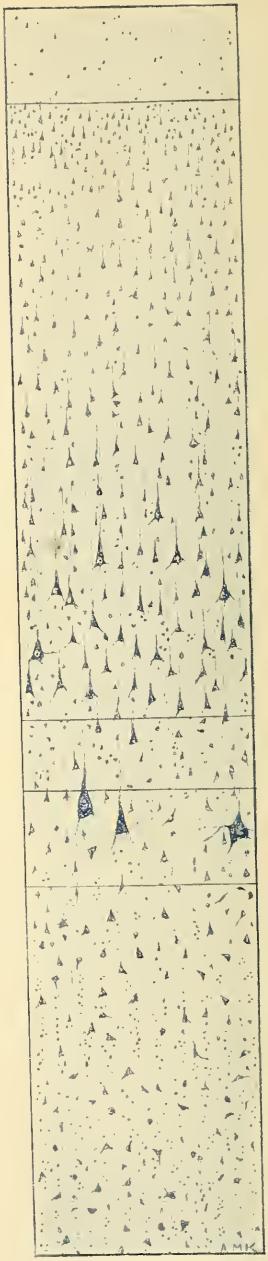

FIG. 13.—Strip of normal motor cortex, showing nerve cells. (Nissl × 45)

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On this hypothesis, Consciousness may be regarded as dependent on the transmission of nervous impulses through cortical synapses. This, moreover, affords some explanation of the action of Strychnine as diminishing the resistance of synapses and thus intensifying Consciousness, and of the soporific effects of the products of fatigue, of Chloroform, and of hypnotics or sedatives in general.

The neuron or essential unit underlying mental functions having been briefly described, it remains to consider the *Cortex Cerebri* from the psychiatrist's point of view, and to ascertain what specialisation as to structure and function in its various parts is exhibited. Beyond the presence of occasional neuroglial elements and the blood and lymph channels, its grey matter is composed of myriads of neurons with their inter-connecting processes or fibres. The neurons of a normal individual are probably numerically all present at birth and their processes develop during mental growth. It has been computed that there are fully 3000 millions of neurons in the human brain.

The cortex varies somewhat in thickness and composition in different regions. Its minute anatomy consists of five chief layers interspersed by fibres, viz. from the surface inwards, (1) the superficial or molecular layer, containing also outer nerve fibrils; (2) the broad layer of supragranular pyramidal cells, large and small (outer cell layer); (3) the layer of granules (middle cell layer); (4) the layer of inner nerve fibres (Baillarger's layer) with a few solitary pyramidal cells, and with the giant Betz cells in the Frontal lobe; (5) the layer of polymorphous cells (inner cell layer).

The second layer—the layer of supragranular pyramidal cells is most developed in the Frontal lobe and probably subserves complex actions and ideational operations. According to J. S. Bolton it is the last to be developed, and the first to degenerate in insanity, and it is therefore an index of mental capacity.

The third layer—of granules—is best developed in the sensory areas, and it is therefore probably afferent, co-ordinating impressions from the thalamus and from other regions of the cortex.

The fifth layer—of polymorphous cells—may be regarded

possibly as subserving efferent actions of organic type, as may perhaps also the infragranular solitary and Betz cells in the fourth layer.

The nerve fibres are both medullated and non-medullated, and connect with the white matter by means of vertical or radial fibres consisting mostly of direct axons, afferent and efferent. They naturally decrease in density as they approach the surface of the cortex. The tangential fibres occupy two main strata, those in the first layer forming the plexus of Exner, those in the fourth layer being interspersed with a few solitary cells. They consist of dendrons, and of collaterals of axons and their terminal arborisations.

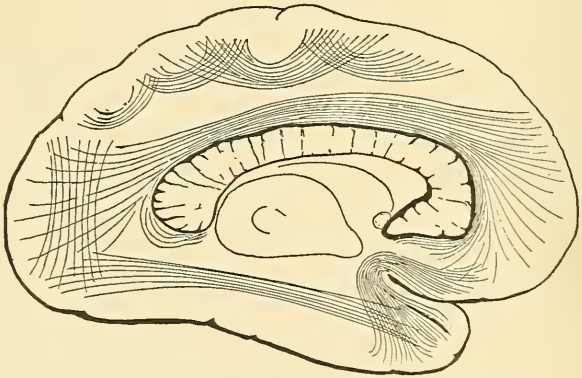


Fig. 14.—The association fibres of the cerebrum.

The subjacent white matter consists of medullated fibres arranged in bundles and separated by neuroglia, and may be divided into three distinct systems : (1) The projection fibres consisting of afferent and efferent fibres which connect the cortex with the basal ganglia and lower parts of the nervous system. (2) The transverse or commissural fibres connecting the two hemispheres by means of the corpus callosum, etc. (3) The association fibres—short and long—connecting different parts of the same hemisphere (Fig. 14).

During the past half century the mapping out of cerebral functions has arrived at a further state of precision, and has altogether superseded the old phrenological doctrine of localising faculties, which was without any foundation whatever.

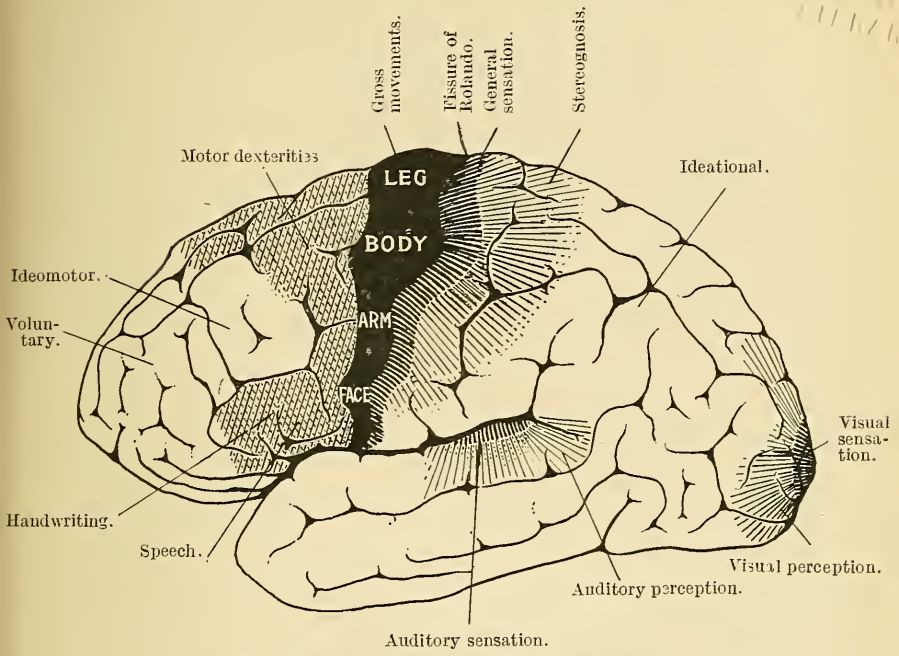


FIG. 15.—Cerebral localisation, external surface.

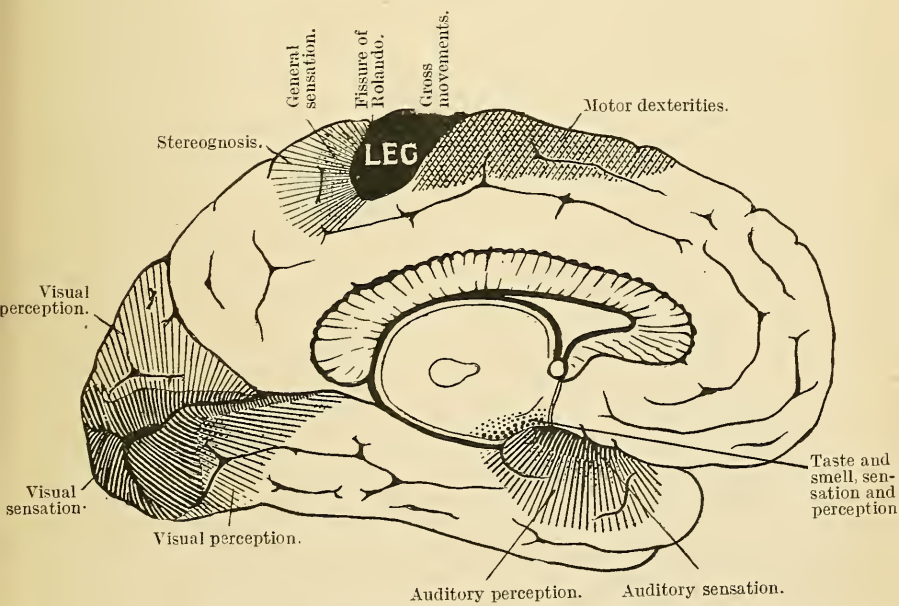


FIG. 16.—Cerebral localisation, mesial surface.

By studying the myelinisation of fibres and as a result of pathological and experimental investigations the cortex has been divided into: (1) Projection areas consisting of the Rolandic sensorimotor centres and the special sense centres; and (2) Association areas which are highly developed in man, and occupy two-thirds of the cortex. The latter are more particularly the substrata for psychical processes although the entire cortex probably operates in the content of Consciousness.

As regards the projection areas the Rolandic region is divided by its fissure into an anterior part (pre-central) which is motor (efferent projection), and a posterior part (post-central) which is sensory and kinæsthetic (afferent projection). The special sense centres have also been ascertained with accuracy.

The Association areas of Flechsig have their distribution in—

(1) The Pre-Frontal lobe.
(2) The Post-Parietal lobe.
(3) The Occipito-Temporal lobe.
(4) The Island of Reil.

The perception centres for sight and hearing (visual psychic and auditory psychic) radiate from their respective sensory centres in the projection areas, and it may fairly be surmised that perception for the other special senses radiate from their sensory centres in a similar manner. The rest of the association areas are concerned with ideational processes, and co-ordinate the emotional tone derived from the subjacent thalamic neurons; the substrata for ideomotor actions and volitions are formed in the Pre-Frontal lobe, which is the latest in the stage of evolution, and indeed its extreme anterior portion is rudimentary histologically and apparently functionless (A. W. Campbell).

Memory is the revival of past impressions and is indispensable for all psychical processes, whether conscious or not. Memory is requisite for mental retention, and has therefore by many authors been dignified into a special faculty of the mind. To speak of memory, therefore, generally connotes the revival of

past ideas, perceptions, and experiences. It is variable in different individuals, and is largely dependent on the quality of the mental fabric as well as on its elaboration. Memory is keenest in youth and diminishes as age advances. Many imbeciles have remarkable memories, especially for calculating figures, whilst the memory of ordinary or even clever men is not infrequently defective in some respects. Events may be remembered better through one special sense than through another; thus one person has a good visual memory and a bad auditory memory, and vice versa. Of some importance is the discrimination of matters requiring no committal to memory; this involves the exercise of the faculty of attention. Many means have been devised to improve and assist memory, the most efficacious of which is the proper method of forming associations. When recalling reminiscences it is frequently best to allow the associations to proceed subconsciously, and then the required memories rise above the threshold of consciousness. As to its *physical* nature, memory must be regarded as an attribute that nervous matter possesses in common with vital protoplasm in general, without which no mental progress could take place. A nervous discharge proceeds in one direction only by what is called "forward conduction" and tends to be facilitated by repetition. As an impulse passes from one neuron to another it ingrains itself as memory or neural habit, each discharging impulse leaving its mark or impression upon the connecting synapses, and diminishing their subsequent powers of resistance.

Disorders of Memory.—(*a*) *Amnesia*, or loss of memory. This may be: (1) partial, as in the inability to recall names in Old Age, and in Aphasic conditions; (2) progressive, as in General Paralysis and chronic mental disorders tending to Dementia; (3) temporary, as in Epilepsy, Acute Delirious Mania, and after shock or injury; or (4) periodic, as in states of Double Consciousness, Somnambulism and Hypnosis.

(*b*) *Hypermnesia*, or exaltation of memory, is witnessed in some cases of Acute Mania, and occasionally in febrile conditions and in poisoning by Cannabis Indica and other drugs.

(*c*) *Paramnesia*, or perversion of memory with illusions is common in chronic Alcoholic conditions in which events are

confabulated that never occurred at all, but are fixed in the memory of the patient.

The natural failure of memory occurs in the inverse order of its evolution, memory for recent events nearly always fading away first, whilst the organised memories of the past are the last to disappear. The tendency to the spontaneous recurrence of past experiences (sensory, motor, and ideational), is generally due to inertia or fatigue. This is sometimes called *perseveration,* and occurs frequently in the insane.

CHAPTER III

SENSATION, PERCEPTION, AND IDEATION (COGNITION)

Sensation is the mental process resulting from the assimilation of impressions from surroundings. In an animal, possessing a brain, with the elements of feeling, this central organ is the highest receptive mechanism by which molecular energy received by the animal is distributed according to its needs. This energy is derived from peripheral sense organs, and in great measure from the alimentary tract and viscera by means of the sympathetic nervous system.

All mental processes may be said to be dependent on sensory impressions affecting us from within and from without. From sensations spring our perceptions, feelings, and higher psychic processes.

Every sensation is composed of at least four attributes, viz.: (1) its *quality*, dependent on the particular sensory neuron stimulated, which is largely determined by the character of the cortical tract affected: *e.g.* electrical stimulation of the tongue produces sensation of taste; sudden pressure on eyeball produces sparks of light. This is in accordance with Mueller's doctrine of the specific energies of sensory nerves. But it must be noted that certain external stimuli produce different sensations: *e.g.* colour is dependent on wave-lengths, as is also the pitch of sounds. (2) Its *intensity—i.e.* strength of stimulus. Just noticeable sensations vary with the different sense organs: usually sight being 1 candle power in 100, sound 1 in 3, and weight (muscular sense) 1 in 17. The Weber-Fechner law formulates that a sensation increases as the logarithm of the stimulus.

(3) Its *duration—i. e.* its relation to time, or the interval between the stimulus and the cessation of sensation.

(4) Its *extent—i. e.* its relation to space, which is most marked in the senses of touch and sight.

These attributes may be considered the elements of cognition, and are the roots from which the higher mental processes of perception and ideation spring. Affection, or the element of feeling, is sometimes regarded as a fifth attribute of sensation. It is more correct to regard it as being concerned with all the foregoing attributes and as being probably as fundamental as is sensation. Herbert Spencer, indeed, considered feeling as the primary element of mind and the cognitive element as a relation between feelings.

Sensations are divided into the special sensations, viz. those derived from the five special senses, the sixth or kinæsthetic sense, and the organic or visceral sensations—the last being to some extent primordial and associated with the essential cravings or desires of the individual.

There is no essential distinction between a special and organic sense, the latter having end organs comparable to those of the former, and, when disordered, radiating sensations in skin areas (referred pains) in accordance with the spinal segmental distribution. All sensations are evolved from the primeval irritability of protoplasm and are derived from the sensibility of end organs. There are probably not more than a hundred elementary qualities of sensations. The fusion of sensations in which the massive organic sensations largely predominate, forms, as it were, the background of Consciousness.

Special Sensations.—(1) *Hearing :* due to vibrations of air (16 per sec. to 30,000 per sec.) on the cochlea, which contains probably about 50 end organs—producing pitch and tone of sound.

(2) *Sight :* due to vibrations of the ether, causing chemical changes in the rods and cones of the retina, which give rise to light and colour. The fovea centralis is entirely composed of cones which are of three kinds for the primary colours, red, green and blue, and their composite white, and its negative black. The rods only function in dim light and then produce a grey sensation.

(3) *Taste :* due to chemical action of various substances on the taste organs—producing sweet (tip of tongue), bitter (back of tongue), salt, and sour sensations.

(4) *Smell :* due to chemical action of particles reacting on the Schneiderian membrane. About a dozen essential qualities of smell can be differentiated, probably dependent on differences in the end organ, and their fusion results in the variety of olfactory sensations.

(5) *Skin :* due to mechanical and other stimuli on different end organs, producing sensations of (*a*) touch and light pressure, (*b*) pain, (*c*) heat, (*d*) cold.

Head's investigations demonstrate that the skin is supplied with fibres from the "protopathic" nerve system (allied to the sympathetic) as well as with specific localising or "epicritic" fibres.

ORGANIC SENSATIONS.

(6) *Kinæsthetic.*		
Muscular sensations	(sense of position and movement, deep sensibility to pressure and pain)	due to contraction or pressure.
Tendinous sensations		due to stretching
Articular sensations		due to pressure.
(7) *Static*	(pose of body)	due to alterations in pressure of the labyrinthine fluid.
(8) *Visceral, etc.*	(largely from vagus and sympathetic system)	
Circulatory		due to blood tension, etc.
Respiratory		due to amount of CO_2 or irritating bodies.
Urinary		due to bladder distension, etc.
Sexual		due to activity of sexual glands, vascular and muscular contractions.
Alimentary	(hunger, thirst, etc.)	pharyngeal, œsophageal, gastric, intestinal, rectal due to peristalsis, distension, etc., also influence of liver and other glands.
Assimilatory	(cœnæsthesis)	due to metabolism of the tissues generally.

The Physical Substrata for Sensation consist of the afferent projection areas of the cortex (Figs. 15 and 16). It is probable that the ultimate cause of the difference in sensations is due to a specific biochemical constitution of the various sensory cortical neurons.

The following sensory distribution may be specified :—

Visual (half-field). The calcarine area of the occipital lobe marked by the line of Gennari.

Auditory. The first temporo-sphenoidal convolution, especially its Sylvian portion—the gyri of Heschl.

Olfactory. The pyriform portion of the limbic lobe.

Taste. Adjacent to the olfactory portion.

General Sensation (touch, kinæsthetic sensation, and possibly visceral sensations, etc.). The anterior part of the ascending parietal convolution.

In their afferent path all sensory impressions pass through the thalamus, which may be regarded as a relay station, where especially the visceral impressions are represented, and where fusion occurs with impressions from the special sense organs. Experiments have shown that the thalamus is sensitive to pain (unlike the cortex), and it may possibly be, as Head suggests, a co-ordinating centre for subconscious affective states.

Disorders of Sensation.—These occur usually as : (1) Diminution of sensation, or as (2) Excess of sensation. (The so-called sense perversions, such as illusions and hallucinations, involve a higher mental operation and are described later.)

Stuporous and Demented patients exhibit a certain amount of analgesia and anæsthesia of skin, as evoked by the prick of a pin. This is especially marked in Confusional cases, and Stoddart has pointed out that it may be complete with the exception of the genital area and the soles of the feet. Hearing is defective in Dements and sometimes in General Paralytics. Deafness in itself predisposes to insanity, as it often leads to the growth of suspicions and the development of auditory illusions and hallucinations. Sight is weakened in Melancholiacs and in some Dements, whilst contraction of the field of vision occurs in Hysterical and Confusional cases. Taste and smell are defective in Dementia, in Confusional cases, and in the later stages of General Paralysis. The sexual sensations are in abeyance in Melancholia and in many cases of Dementia, whilst in other Dements and Aments they are abnormally active from a dearth of higher mental processes. The alimentary sensations are diminished in Melancholia, whilst loss of appetite is common in many chronic psychoses, but only occasional in General Paralysis. All the senses are hyperactive in Acute Mania.

Perception is the cognitive process by which a person becomes aware of definite objects in his environment. A perception is therefore a presentation in consciousness of an external object. It is derived from sensations and their relations to objects, and involves memories of previous sensations which are residua of a like character. It has, associated with it, also a corresponding tone of feeling. The pen I hold gives me the perception of a pen involving sensations of sight, touch, and of the kinæsthetic sense, and calling up also memories of past similar sensations and perceptions (*recognition*). The term *Apperception* is sometimes applied to the central focus of perception in Consciousness, which involves the process of attention in particular (*vide* p. 67).

Perceptions of whatever sense have relation to : (1) Quality (and intensity), (2) Space, and (3) Time.

Perception of Quality arises from the fusion of sensations derived from external objects and from previous experience of the same. *Stereognosis* is the term applied to the perception of form and consistency as derived from the kinæsthetic and tactile senses. The visual organ assists to a certain extent also by means of its stereoscopic property.

Perception of Space is mostly obtained from the senses of touch and sight, combined with the kinæsthetic sense. An infant learns to understand distance by tactile experiments at first, and binocular vision is an additional aid later. In determining localisation in space there are also what are called *local signs* in sense perceptions, which have been specially investigated by Lotze. These are due to the different areas of the sense organs possessing unequal sensibility: *e. g.* in the skin and in the retina. In the latter case the associated areas stimulated are connected with kinæsthetic impressions from the ocular muscles, and their correlation is of importance in the estimation of space. *Orientation* or the localisation of the body in space is due to all the sense perceptions, but especially to the perception of differences in pressure of fluid in the labyrinth (Static perception).

Perception of Time is derived from intermittance of stimulation of the sensory organs by which intervals are recognised, and is largely developed from the sense of hearing. Orientation is also frequently spoken of with regard to the

perception of Time, and Disorientation to the corresponding disorder of perception either in Space or Time.

The Physical Substrata for Perception.—The association areas of the cortex which border on the afferent projection areas constitute the substrata for perception. The perceptive centres may indeed be said to radiate from their sensory progenitors (Figs. 15 and 16). They consist as follows :—

Visual (half-field). The cuneus portion of the occipital lobe. (Not the angular gyrus as hitherto believed.)
Auditory. The second temporo-sphenoidal convolution.
Olfactory. Part of the limbic lobe.
Taste. Adjacent to olfactory.
Touch discrimination (epicritic), *Kinæsthetic* (*Static, Visceral ?*) Posterior part of ascending parietal convolution.

Disorders of Perception.—These consist of : (1) Diminution of perception, or imperception ; (2) Excess of or hyperperception ; and (3) Perversion, viz. illusions and hallucinations.

By *imperception*, or as it is sometimes called, *agnosia*, is meant that, although the various special sense stimuli arouse sensations, perception does not occur. Thus a pen presented arouses visual sensations of the object, but the patient does not perceive what it is. It also produces sensory apraxia (*vide* p. 65). It has been suggested as being due to dissociation by increase of resistance in the connecting synapses between the sensory and the perception areas, and is commonly observed in toxic states. Word-blindness (*alexia*) and word-deafness, which occur in sensory aphasia, are examples of imperception, the person seeing and hearing words which to him have no meaning, owing to lesions of the auditory and visual perception areas.

Increased activity of perception occurs in acute disorders and not infrequently leads ultimately to perversion of perception.

An **illusion** is a perversion or misinterpretation of perception, *i.e.* it is a false or erroneous perception aroused by a sensation. The peripheral stimulus gives rise to an abnormal perception, *e. g.* when a patient sees a man in the garden and mistakes the man for a cow, or hears the rustling of leaves which he misinterprets and erroneously perceives as a "voice."

An **hallucination** is a false perception which is aroused without any sensation whatever. It is a complete sense deception, and there is, in fact, no corresponding peripheral stimulus at all. Thus a patient sees "visions" and hears "voices" that are projected and have no existence in reality.

Dissociation by increased synaptic resistance, localised in area, again affords the best explanation for the existence of illusions and hallucinations. But in the formation of illusions there is a circuitous and faulty connexion with sensory stimuli, whereas in hallucinations there are no peripheral stimuli whatever. In the latter case, the hyperactive sensory areas are evoked into consciousness spontaneously, or they may arise from abnormal association currents by a system, as it were, of cross working from other areas which are in connexion. In both instances the association areas are disturbed as in the delusional process described later. It has been argued that hallucinations are at bottom but illusions, for but rarely can sensory stimuli be considered as really absent altogether. In both illusions and hallucinations there is generally disturbance of the sensory areas as well as of the association areas; the conditions must be regarded as dependent on general neuronic instability, and there is no essential difference between them. In many cases there is disorder of peripheral sense organs acting as a chronic irritant leading to disturbance of brain functions. Hallucinations and illusions occur both in the sane and the insane, but the judgment of the former is not impaired thereby. The sane man is able to discriminate between a phantasy or "voice" and reality, which the insane patient, having his other senses to some extent involved in the morbid process, is unable to do.

Hallucinations may be simple, such as a flash of light or a sound; or compound, such as a "vision" or an imaginary conversation. So-called *recurrent sensations* are in reality hallucinations, which affect some people whose perceptive centres become temporarily disordered by the fatigue of repeated stimulation, *e. g.* a tune of music, etc. They are closely allied to *after sensations or images*, which sometimes continue immediately after a stimulus has been withdrawn and are due to inertia.

Secondary Hallucinations (sometimes called secondary sensations) are those that are aroused by the stimulation of another

sense organ. Thus, a sound may be accompanied by a particular colour (sound photism).

Illusions are common enough in the sane and are classified as: (1) *Active*, or due to expectancy, *i. e.* a person sees and hears what he expects, thus leading to mistakes of identity. This occurs frequently in Senile dotage. (2) *Passive*, or due to external conditions, *e.g.* the refraction of water gives the impression of a partially immersed stick being bent; night travelling by train often gives the idea of proceeding in the reverse direction; an object felt between crossed fingers gives the impression of being two objects.

Hallucinations occur in various mental disorders, especially of the Confusional type, and when chronic they are usually of bad import in prognosis. They occur in about 50 % of the insane.

Auditory Hallucinations.—The ear is the most complicated sense organ, and the perceptions derived therefrom are prone to be disordered in the insane. The patient may be subject to simple noises, or to the deeper complex of a whispered word or sentence, or of loud "voices." Sometimes the disorder is produced through one ear only, and is projected by the patient from afar, or it may appear to come from within the head or from the abdomen. The "voice" may be of either sex, and more than one "voice" may be heard. "Voices" occur more by night than by day. They are commoner in deaf patients than in others. They may be pleasant or unpleasant. Sometimes they dominate the life of a patient and are of a commanding nature, so that such a patient is frequently dangerous. "Voices" occur mostly in Alcoholic, Paranoiac, and Dementia Præcox patients, but also in General Paralysis, in Confusional and other insanities.

Visual Hallucinations.—These are also commoner by night than by day, and sometimes occur in ordinary people when waking from sleep. They are not so frequent in the insane as are auditory hallucinations. They may occur in the blind. Faces are seen, or a complete land- or sea- scape may be described, by the patient. They are common in Alcoholic and Drug conditions. Vermin, beetles, devils, or goblins of a terrifying nature, are frequently seen by a patient suffering from Delirium Tremens.

Hallucinations of Taste.—These are generally of an unpleas-

ant character. Food tastes disagreeably or even filthy and the patient has delusions of being poisoned and refuses to eat. Strictly speaking, illusions are present and the taste sensation, or rather perception, is perverted. In most cases there is an unhealthy condition of the mouth and alimentary tract. Many cases are associated with olfactory hallucinations.

Hallucinations of Smell.—These are usually of a disagreeable nature, but not invariably so. It is noteworthy that they occur most frequently in patients with sexual disorders or with delusions connected with the reproductive organs.

Hallucinations of Touch, Pain, and Temperature.—Some Alcoholic and Paranoiac cases complain of feeling insects crawling about them; or that currents of electricity or magnetism are played upon them; or that neuralgic pains are produced by unseen agencies. Others have thermal hallucinations, and "sensations" associated with the sexual organs or with the alimentary tract.

Organic and Visceral Hallucinations.—These are usually perversions or misinterpretations of organic sensations, or, strictly speaking, they are illusions. They occur more especially in regard to the digestive tract, *e.g.* the so-called epigastric or abdominal sensation; but they also include hallucinatory dysphagia and dyspnœa, besides various hallucinations or illusions from the generative organs. These visceral sensations must be regarded as being due to a great extent to radiations into the skin areas.

Hallucinations and illusions also occasionally occur in connexion with Kinæsthetic and Static perceptions.

Ideation is the process concerned with the highest cognitive functions and comprises Thought and Intellect, and it involves the operation of Memory in particular. An idea of an object is derived from the memories of past perceptions, or what are sometimes called memory images or re-presentations of an object. It also produces a corresponding complex subjective feeling of pleasure or the reverse, which we call Emotion. The idea of a "pen," for instance, is based upon the memory images or the memories of perceptions of a pen in the past. Most people, in forming ideas of any particular object, find that the memory of one sense preponderates over another. Thus, it may be chiefly visual, *i.e.* seeing the name or symbol given to the

object written or printed; or it may be chiefly auditory, *i. e.* hearing it pronounced. It involves also subconscious articular kinæsthetic movements, without which concentrated Thought or Conception is scarcely possible. It might here be mentioned that some psychologists ascribe the essential characteristics of cognition in all mental processes as being due to what they call "meaning," implying thereby a quasi-metaphysical link between impressions and reactions.

Ideas, like perceptions, have attributes such as quality, *i. e.* their essential nature, and intensity, *i.e.* their vividness, and to some extent they also have spatial and temporal relationships through the memory of past perceptions. Ideas may be simple or compound. By a process of mental abstraction, the qualities of different ideas can be considered apart, and the result is what is termed a *concept*. Thus the colour Red is a concept, and is derived from ideas which are the result of perceiving red objects.

The Association of ideas.—One idea according to its emotional tone tends spontaneously to call up another idea, either at once, or after an appreciable interval of time—in other words, the association may be simultaneous or successive. This association of ideas occurs in the process of thought, and is subject to the ordinary laws of causation, one idea calling up another by some definite link which should occur in orderly sequence in the logical thinker. Mental energy is thus expended in ideational association or a train of thought, or it results in action, volitional or otherwise.

Certain associated ideas, however, according to their emotional tone, tend to conglomerate together into what has been termed a "complex," or system of emotionally toned ideas (Hart). Thus the political or religious creed that a person professes is largely due to complexes based on feelings and ideas acquired by suggestion, rather than by reason. A complex will either reciprocate or antagonise with other complexes; in the latter case there results what is known as conscious or subconscious "conflict,"—that frequent precursor of mental disturbance.

The human brain has gained the advantage over that of the lower animals in the greater development of its association areas and thereby superior capacity for thought and volition.

The commonplace brain has circumscribed association areas, the average brain has broader areas, whilst the man of superior intelligence owes it to their quality and greater development, their apotheosis being reached in the man of genius. According to Clouston's speculations, four out of every five individuals may be regarded as possessing average intelligence, 1 in 11 is specially talented, 1 in 450 is a lesser genius, of genius itself only a few examples occur in a generation, 1 in 450 is eccentric, and 1 in 11 is markedly under the average. One method of estimating the mental calibre of an individual, so far as ideas are concerned, is the vocabulary that he possesses. A man of low intelligence uses only about 300 different words, the ordinary person uses about 1500, whilst Shakespeare is credited with using over 15,000.

Laws of association have been formulated according as to whether the association of ideas occurs by similarity, by contiguity, or by contrast, in time or in space. In a state of dream reverie or phantasy, the associations adopt a quasi-haphazard course because they are without the control of voluntary attention. This occurs also in the lighter degrees of Sleep, Delirium, Confusional insanity, and Mania. In following a logical train of thought, the process of attention —which is described later—has to be called into play to co-ordinate ideas further, and as with all ideation, this requires the aid of the faculty of memory.

Imagination is the power of making associations from concepts as well as from ideas, and is therefore specially dependent on memory. It may be: (1) *Reproductive*, from the past experience of the individual; or (2) *Constructive*, in the formation of novel associations of a high order, which occurs in the artist, inventor, or man of genius. Imagination is called into play largely by those richly endowed with the æsthetic sentiments.

Judgment and Reasoning.—A *judgment* is a process of deliberation in which a relation is formed in the association of ideas, which is sometimes also called discrimination, comparison, or the sense of proportion. When accompanied by an excess of affective tone, a judgment becomes a "Belief," and, strictly, should be regarded as a Sentiment. In the process of forming a judgment, an abstraction of a certain quality is made

from one concept or idea and is re-combined with another. In Stoddart's words—a judgment is an association after disjunction, and is really a special form of association. When a judgment is expressed in words it is called a proposition.

Reasoning consists of a still higher association, namely the relation of judgments or propositions and the arrival at conclusions by deduction. The discrimination between true and false deductions belongs to the science of Logic.

The Physical Basis of Ideation lies in the association areas of the cortical convolutions, the perceptive areas merging into the ideational substrata (Figs. 15 and 16). All ideation is dependent on neural association; each association area has connexions by fibres with the other association areas, and by means of commissural fibres through the corpus callosum with those of the opposite hemisphere, and with the perceptive centres on the afferent path and with the motor region on the efferent by means of the ideomotor centres in the Frontal lobe.

Disorders of Ideation.—(1) *Absence of Ideas.* This may be due to inertia or functional dissociation of ideas, as in Stupor, and is evidenced by apathetic Mutism in many cases of Melancholia and Dementia Præcox; or it may be organic, as in profound Amentia and Dementia.

(2) *Retardation—i. e.* a slowing, wandering, or difficulty in the association of ideas, which occurs in Melancholia and other conditions of depression. This is largely dependent on toxins paralysing or functionally destroying neuronic connexions, but it also arises from incomplete development of neurons, and sometimes from peripheral anæsthesia.

(3) *Acceleration of Ideas:* from too rapid association, as in the preliminary stages of Alcoholism or in Mania. It leads in some cases to the so-called Flight of Ideas on a lower level than is normal.

(4) *Obsession of Ideas* occurs in Psychasthenia, in which imperative ideas constantly recur or are fixed and cannot be banished from consciousness. It is generally due to emotional stress, together with defective volition. It frequently leads to impulsive or disordered conduct.

(5) *Disorder of Sequence of Ideas* occurs as irrelevance, rambling, confusion, and incoherence. There is a dissociation,

or want of logical connexion between ideas, leading sometimes to monotonous repetitions (Verbigeration), senseless rhyming, or imitating the phrases of others (Echolalia). Examples of these are abundant in Confusional insanity, Dementia Præcox, and Paranoia. They are witnessed both by the speech and the writing of patients.

Delusions.—These are false beliefs or errors in judgment which defy correction and are beyond argument, being dependent on faulty association of ideas. Although common in the insane and of great importance from the legal standpoint, insanity occurs without delusions, and delusions occur in persons otherwise sane. In estimating a delusion, the class of life of a person must be taken into account, in conjunction with his education and his general environment. Many delusions are based on illusions and hallucinations, as evinced by conduct, and are due to misinterpretations of sensations, or rather, of perceptions. But for the most part, they are due to irrational or wrong ideational paths and are the outcome of a dissociated confusional state of the subconscious life, caused by disordered feeling or emotion, that seeks expression. Such disorder sometimes leads to the development of illusions and hallucinations only.

Delusions in their development are concerned either with the person expressing them, or with the surroundings of the person. In the former case the whole self may be implicated, such as (1) a state of depression with ideas of morbid apprehensiveness, of impending evil, of being incapacitated, inefficient, unworthy or unnatural, of being ruined financially or morally, of being wicked, of having committed imaginary crimes or the "unpardonable sin," of having lost the soul, of being eternally damned and with other self-accusatory notions; or (2) a state of exaltation in which the patient has ideas that he is the Deity, the King, or a Duke, that he is a millionaire, that he is the strongest or cleverest man in the world, that he is an artistic genius, or that he is engaged or married to a princess, etc. Part of the self only may be affected in the morbid process, causing (3) visceral or bodily delusions. Thus a patient may think he has no brain, or no limbs, that his legs are made of glass, that his body is hollow, that his throat is blocked up, that his bowels are obstructed, or that his

sexual nature is ruined, etc. Delusions regarding a person's surroundings are especially apt to develop in any one with a suspicious temperament; they consist of (4) Delusions of suspicion and persecution, by electricity or magnetism, by imagining that people make base insinuations, by the notion of a systematic conspiracy, in which certain people, the police, or the whole world take part, by the idea of being defrauded by some one, by imaginary infidelity of a spouse, by mistaking the identity or sex of other people, or by mistaking the nature of the surroundings, etc. Some delusions are of mixed origin, and implicate both the person and his surroundings.

It is noteworthy that sometimes bodily disorder locates a delusion, but then it is the mental disorder which misinterprets the bodily sensations, *e. g.* a patient with flatulent dyspepsia believes herself pregnant, or an aortic aneurysm gives rise to the idea that a snake resides in the thorax, etc. Finally states of alternating and double personality are in reality delusions of self-identity.

The so-called delusions of the sane consist mostly of fallacies dependent on superstitions and want of education. They differ from insane delusions in that to some extent those who utter them are amenable to argument and instruction. Examples are demonstrable in children and the ignorant, and in those persons who will not sit down thirteen at dinner and the like.

The ultimate cause of delusions is faulty association of ideas, resulting in dissociation. This may occur from a chronic morbid state of the feelings for which a patient seeks an explanation; the retardation of ideas and painful emotion in depression produce a splitting off of certain ideational complexes from the general personality, which crystallise out into a delusion as a saturated solution of grief (Savage). If undue elation occurs with mental buoyancy and easy transference of ideas, a patient begins to imagine himself a person of wealth and importance. Should suspicion be a characteristic, with or without either of the foregoing, the patient seeks an explanation in some evil machination in the surroundings. His judgment and reasoning powers are also hindered perhaps by defects of memory, his perceptions of the past seem

to be unreal, and he adapts himself to a new nexus of ideas in consonance with his existent disordered emotional state.

Mention has already been made of the influence of hallucinations and illusions in the chain of the creation of delusions. It is probable that in some instances the ideational areas are thus secondarily involved, this affection being subsequent to the formation of hallucinations. In other cases the perceptive centres are affected secondarily, and the disorder spreads from the ideational areas, causing illusions and hallucinations. The organic process and physical substratum of delusions, illusions, and hallucinations, are closely allied and depend largely on the extent of cortex involved. Hallucinations are not infrequently described as delusions affecting the special senses, in contradistinction to those pertaining to the ideational centres—or memories of past perceptions. In both, the misinterpretation is due to faulty nervous connexions leading to false beliefs which are not amenable to argument. In Hypochondriasis the afferent nerve currents from the viscera are probably sometimes altered in intensity, and contribute to disturb the association connexions so far as to exaggerate the bodily sensations and thus to lead to delusional explanations.

Delusions may occur in almost every form of insanity. In the acute stages of disorder, when they exist, they are of a fleeting nature, whilst in chronic conditions they may change from time to time or else they tend to become fixed. A delusion does not necessarily implicate the conduct of a patient, neither need it materially affect the judgment of a patient in matters outside the deluded train of thought. In General Paralysis the most extraordinary delusions may be expressed of a superlative nature, whilst in Paranoia the delusions become systematised so that a definite insane story is evolved, viz. that a conspiracy is being formed or that the patient is being persecuted.

Many of the insane are aware that they are ill or are suffering from mental disorder; especially is this the case with Melancholiacs. When, however, delusions exist, patients for the most part lose correct "insight" into their state and are unable to appreciate their true condition; they are

therefore apt to regard their detention under care and treatment as improper and unjust. In recoverable cases, as improvement occurs, delusions tend to fade away as the association currents approach the normal, and the patient then becomes aware of the erroneous nature of his former ideas. It is therefore the endeavour of the physician to establish, if possible, fresh ideas and interests in the patient, in the hope that the faulty association may discontinue from disuse.

CHAPTER IV

FEELING, EMOTION, AND SENTIMENT (AFFECTION)

Feeling is the term applied to the pleasant or unpleasant subjective tone pervading and accompanying the mental processes of sensation and elementary perception.

In the evolution of life the human organism, like all others, is subject to utilitarian or hedonistic influences, and is attracted by what is pleasurable, and is repelled by what is disagreeable, harmful, or painful. Feeling is at the foundation of the struggle for existence, and is in accordance with the primal laws of self-preservation and reproduction. From the subjective state of Feeling arise all Emotions, Desires, and Instincts, which at bottom largely actuate Conduct.

Whether Affection—*i. e.* Feeling—be regarded as an attribute of Sensation, or as the basis on which Sensation originates, and affects the unity of Consciousness, it is in its higher manifestations, with its complexity of sensations, that its interest to the practical psychiatrist lies. The feeling of pleasure and pain accompanying any sensation is largely due to, or is augmented by, superadded muscular, circulatory, and other sensations, in addition to the primary sensory stimulus.

The positive, or pleasurable tone of feeling in a person subjected to a certain stimulus is attended by—

Dilatation of arterioles,
Deeper respiration,
Increased cardiac and muscular action,

whilst in a negative or painful tone of feeling the reverse takes place. To a musical person a harmonious melody produces the former, whilst discordant noise produces the latter.

Physical Substratum of Feeling.—As the cognitive

element of mind, which is the feature of perception and ideation, is principally derived from the special senses, so, affective tone or feeling is mostly concerned with organic sensibility, and is therefore largely due to impressions received through the vagus and the sympathetic system.

Consciousness being composed of feelings as much as of perceptions and ideas, central representation of feelings must exist. In all probability the cortex is thus stimulated by the afferent system of neurons from the thalamus. The thalamus may be regarded as the subconscious mechanism for affective tone, the protopathic system terminating in its central grey matter.

Disorders of Feeling.—These are due in part to the inherent quality of the nervous elements producing undue sensitivity or the reverse. Excess or diminution of feeling may arise from want of cortical control over thalamic activity, but it may also to some extent be dependent on a too ready reflex action or the reverse. Sometimes in the insane, feeling is perverted so that a painful state is aroused by what should be pleasurable sensation, and vice versa.

Emotion is the tone of feeling belonging to higher perceptions and ideas. Pleasure and Pain are characteristics of emotion as they are of feeling. But as feeling is associated with elementary sensations for the most part, so, emotion is connected with the higher mental processes of perception and ideation. These processes are attended with a pleasurable or painful state of feeling, and frequently with a subjective state, equipoised on the border-line between the two. An Emotion is composed of feelings which are associated with, and largely augmented by, complex sensations which are reflexly and involuntarily aroused by the stimulus of a perception or idea. When an emotion is intense and of short duration it is termed a *Passion*, whilst a lasting emotion of small or moderate intensity is called a *Mood*. When a certain mood is the habitual characteristic of a person's mental state it is characterised as a *Temperament*. The classical divisions of temperament are: (1) Sanguine; (2) Phlegmatic; (3) Choleric; (4) Melancholic. They are dependent on the rate of reaction and the depth of feeling exhibited.

A real classification of emotions and their allied passions,

moods, and temperaments is scarcely possible, as they vary with the particular perceptual or ideational stimuli which are brought into play.

To assist the student with some enumeration of emotional states the following may be helpful:—

(1) Hilarity, Exhilaration, Joy, Delight, Satisfaction, Content, Hope.

(2) Fear, Terror, Anxiety, Apprehensiveness, Sorrow, Grief, Regret, Fright, Humility, Bashfulness.

(3) Anger, Fury, Hatred, Envy, Jealousy, Suspicion, Disdain, Malice, Pride, Vanity, Conceit, Ambition.

(4) Love, Tenderness, Sympathy, Benevolence, Esteem, Respect, Veneration.

In all the above emotions some perception or idea is found to be more or less in evidence in a given case. In other cases the intensity of an emotion sometimes obliterates the ideational content, so that an emotion tends to persist after the related ideas have vanished from consciousness. On the other hand, in obsessional cases the ideas are ever present. In the first group are the emotions commonly present in an exaggerated degree in the elation of Simple Mania; in the second group those that are intensified in states of depression and Melancholia; in the third those that pervade Acute Mania and Paranoia, whilst in the fourth are those connected with or mostly derived from the sexual emotion. These groups, however, necessarily overlap; for instance, jealousy might equally be regarded as a sexual emotion.

Associated with a marked emotional state there can usually be observed a bodily expression, mainly dependent on involuntary muscular actions. This expression is usually regarded as secondary to the emotion and as a vent for the discharge of its energy. Thus in a depressing emotion the angles of the mouth droop, the lachrymal glands generally secrete, the organic functions are sluggish, movements are slow, and a characteristic attitude, inclined to flexion, is observed; whilst in a state of exhilaration the reverse reaction takes place. Moreover, if the emotion is intense it tends to still further action. Thus Anger, which is outwardly expressed by fixation of gaze, flushing of the face, tightening of the lips, and clenching of the fists, is apt to end in fight; Fear may

develop into flight, and the sexual emotion may find its instinctive gratification.

William James, however, regards the expression as the real cause of the emotion. Much may be said in favour of this theory and it will be referred to in discussing its physical basis. It is said that most actors experience to some extent the emotions they dramatically represent. Properly regulated emotion is helpful to the individual. Its energy should, however, be expended in the intellectual sphere as far as possible, rather than be wasted in the lower expressional centres. The latter is forcibly illustrated in children, in neurotics, and in certain cases of insanity. By self-control and education, emotional tension should be dissipated in the higher centres, and therefore its outward manifestation is largely repressed in the cultured classes.

Physical Basis of Emotion.—As affection is related to sensation, so is emotion connected with perception and ideation. It is a component element of Consciousness, and therefore it must have some cortical representation. Fibres are said to radiate to the sensory cortex from the thalamus, which is now regarded as the subconscious centre for feeling.

Being composed of complex feelings, an emotion may be said to be due to the affective tone ultimately derived from sensory impressions arising chiefly from the viscera, glands and musculature, which tone results from the continuous stream of energy passing up the afferent tract to the thalamus, and which is finally disposed of there, under the control of the cortex. In the process of emotion, especially when it is intense, further changes occur in these peripheral impressions owing to its bodily expression (muscular, etc.). This has been regarded as a secondary efferent overflow of nervous energy which increases the afferent sensory impressions. William James and his school, however, regard these expressional changes as the essential peripheral cause of an emotion in which the cerebral memory of former expressional changes accompanying the same emotion largely contributes.

An emotion being aroused by a percept or idea, there seems no doubt that an unconscious reflex is established. It is suggested by Stoddart that the efferent path for this reflex is not by means of the pyramidal tract but through the red nucleus

of the indirect motor path of Monakow to the motor neurons and sympathetic system subserving muscular and vasomotor action; and that the affective tone accompanying the resulting afferent sensations augment the emotion, or on James's hypothesis, cause the emotion. He observes that this indirect motor path is analogous to the pristine motor tract which serves the actions of birds and other lower vertebrates that have no pyramidal tract, and whose actions are purely instinctive. Emotions may be regarded, for the most part, as being centrally excited by perceptions and ideas, and as having a reflex mechanism. As percepts and ideas are dependent on the special senses which are cognitive rather than affective, so emotions are associated with organic sensibility which is affective rather than cognitive.

Disorders of Emotion.—These occur from (1) Excess of emotion, (2) its Deficiency, or (3) its Perversion.

Excessive Emotion is characteristic of Mania with its self-conceit, exaltation and excitement; perception and ideation, being in excess, cause reflexes too readily. It is frequently to be seen also in Alcoholic and Epileptic insanity and in General Paralysis. Melancholia, with its exaggerated fears, apprehensions, self-abasement, and painful depression, on the other hand, is associated with sluggishness of mental processes, and slowness of reflex action. Paranoia is an example of excess of emotion of mixed character with its morbid elation, vanity, and suspicion. Jealousy is often marked in women, especially in the mental disorders of the climacteric.

Deficiency of Emotion occurs chiefly in Dementia and Amentia where the primary stimulus of perception or ideation is small or non-existent, but blunting of the emotions is also a feature of chronic Melancholiacs. In many of these cases the countenance is fixed in gloom, although the emotion has to some extent vanished through habit.

Perversion of Emotion occurs in certain persons in whom stimuli produce different effects from those produced in ordinary individuals. Thus corporal punishment in some sexual perverts produces joy, whilst another example of perversion of the sexual emotion is the abnormal affection of a spinster for her dog or cat.

It has been suggested, as an hypothesis, by the modern

school of Freud, that emotions originally accompanying certain perceptions or ideas may be transferred as "affects" to other ideas or "complexes," and that such transference largely accounts for the faulty association which produces delusions, illusions, and hallucinations.

Sentiments are in reality higher emotions. They differ from the emotions already described in that voluntary reactions involving attention and judgment come into play. There is in fact an analysis of, or comparison between, the ideational and emotional processes in which the latter become modified, so that in the higher emotions the cognitive element tends to become prominent. So far as the emotional content is concerned, sentiments are associated with sensation complexes affecting the brain. They are classified as (1) Moral, (2) Intellectual, and (3) æsthetic.

Moral Sentiments involve the sense of *duty* or *conscience*, in its social and religious aspects and relate to the different *virtues*, which strictly belong to the study of Ethics. Morality results from the normal development of altruism, and has been defined by Mercier as the ability to forego immediate pleasure for future benefit. Thus immediate pleasure may be a fleeting self-indulgence, possibly harmful to the individual or to others, whilst the ulterior benefit obtained by abstaining from self-indulgence may be lasting and of incalculable good in the future. Morality is a matter of education in controlling the lower instincts. The moral code applies to communities as well as to individuals; it is at the foundation of sound government, and to some extent embraces the sciences of Jurisprudence, Sociology and Theology.

Intellectual Sentiments result from the higher emotions brought into action in establishing the *Truth* or *Belief* of any given statement, which is beyond the person's contradiction or doubt, or in arriving at the *Justice* of any course of action. In determining the truth of any proposition, or the justice of an action, the logical mind weighs the evidence given by the senses and deliberates thereon with as little feeling as possible. The essentially feminine mind is largely guided to a conclusion by feeling, whilst the child's receptive mind forms but feeble associations, and implicitly believes whatever is suggested to it. In persons with general instability of ideas and feelings,

the antithesis of belief results, namely *Doubt*, which leads to hesitancy of action or inaction.

Æsthetic Sentiments are those higher emotions on which artistic tastes and recreations depend, many of which involve the exercise of imagination in a high degree, viz. painting, architecture, music, poetry, drama, the sense of humour, beauty, etc. These are all natural endowments capable of further development, and which in varying degrees enrich the equipment of a highly organised mental constitution.

Physical Basis of Sentiments.—Sentiments being intellectualised emotions, the nervous substrata underlying the ideational processes are involved, as well as the emotional mechanism already described. In the association area of the Pre-Frontal lobe where ideas with their subjacent emotional tone are translated into the springs for action, it may be surmised that the chief basis for the moral and other sentiments exists.

Disorders of Sentiments.—Here also there may be (1) Excess, (2) Deficiency, or (3) Perversion. Excess is exhibited in some ill-balanced persons who are hyper-conscientious and are always weighing motives, and who doubt the morality of their words and actions. Those with a pronounced æsthetic sentiment are not infrequently wanting in the moral sentiment, and are also prone to be mentally unstable. Thus there is amongst the class of artists, poets, and musicians, whose trend has been abnormally confined to the æsthetic sphere, a tendency to certain actions that has caused various authors to place some of them within the category of the moral degenerates, although their reasoning powers may be unimpaired.

In insanity and mental dissolution in general, the æsthetic qualities being the latest to be acquired in the education of the individual, are generally the first to become disordered, and indeed to become grotesque, as exhibited by the works of art emanating from insane patients. The lack of moral sentiment is instanced by the immoral conduct, untruthfulness, and vicious tendencies observed in particular in some Alcoholics, General Paralytics, and sometimes in cases of Senility and Imbecility. Even in the milder types of Mania and Melancholia there is something wanting in manners and courtesy,

and patients are defective in normal social and recreative activities, betokening a disordered æsthetic sentiment.

The moral sentiment of the criminal is perverted to suit his own ends, and is not the result of disease. Unlike an insane person, he can restrain himself from evil, if he wishes; he voluntarily takes the risks of the life he leads, and the consequences it entails. Some criminals, however, not being actually insane, are weak-minded and are scarcely fully responsible. These are congenitally deficient as regards the moral sense, and require permanent segregation rather than punishment.

CHAPTER V

INSTINCT, VOLITION, AND ATTENTION (CONATION)

Conduct consists of purposive action which is both Instinctive and Volitional. By this means a living being maintains his relations with his surroundings and with other living beings. It is composed of the various activities by which the adjustment or adaptation of the human organism to the environment is effected. All life may be regarded as a reaction between an organism and its surrounding medium. From its medium the organism derives what it requires, so as to increase and multiply until its potentiality is exhausted and it languishes and perishes.

By the action or conduct of a person is his sanity or insanity largely determined in the legal and practical sense, even if not in the medical and scientific discernment of soundness or unsoundness of mind. From the physical standpoint, a man's conduct must be said to be dependent on his inherited nervous disposition or what has been handed down to him by his ancestors (Nature), and on his acquired nervous mechanism due to his training and education (Nurture). Besides the conduct of the person moving in any particular social medium, his speech and what he writes must be taken into account. *Language* consists of motor reaction of the highest order, and is significant of the mental state of the person and of what his outward action towards others is likely to be. Language, indeed, may be considered as conduct on a high plane. The lower animals react on one another by means of gestures and noises which may be regarded as a primitive form of language. In the human species communication between mankind is carried on by means of articulate and written speech, the symbols for which differ in various countries.

Human action or conduct is for the most part based on reflexes and instincts which have been trained and modified by the education of the association areas in the cortex cerebri, or in other words, which have been moulded by volition. Such action, indeed, when directed into the best channels, is the very essence of what is termed "Character." This it is which counts for much in gaining the prizes in life, far outweighing the cognitive acquisitions of the individual.

Reaction Time.—Experiments in cerebration have been devised by Münsterberg and others for testing the time between the application of a stimulus and its motor response in different persons, and for estimating the time taken in appreciating a sensation or in exhibiting a choice. Reaction time is invariably delayed in states of depression, and is generally accelerated in Mania.

Reaction time has latterly been further applied in psychoanalysis, by giving seriatim a number of stimulus words and asking a patient after each word to give an associated word of response. By the nature of the latter, coupled with any undue delay in reaction time, an emotional line of thought or buried complex of ideas is sometimes elucidated.

Human action may be classified as (1) Reflex, (2) Instinctive, and (3) Volitional or Voluntary. Derived from Volitional action is that which is (4) Impulsive, (5) Habitual, and (6) Automatic.

Reflex Action.—All action is in the end derived from the primal reflex to which all organisms are subject, viz. a reaction to a stimulus. Such reflex action occurs even in the highest levels, *e. g.* when a man receives a blow from an opponent and at once responds with a counter-blow. Reflex action is, however, best typified in the lower levels, which have no concomitant psychic equivalents, such as the plantar reflex, which may be regarded as a remnant of the different congenital mechanisms to prevent self-injury, *e. g.* blinking of the eyes, etc.

The physical basis of reflex action the student will have learnt from his preliminary studies in physiology; the reflex disorders being due to interference with the individual arcs involved, or with the controlling mechanism of higher nervous functions.

Instinctive Action is a grade higher than reflex action,

and its nature is more complex, and it has, moreover, a psychic accompaniment. It is also due to a congenital nervous disposition, for its organisation dates almost from birth, and therefore follows closely on reflex action.

Instinct is purposive action in pursuit of ends without foresight or education. Instincts are psychic in so far as they are connected with the corresponding emotions, and indeed they possess the same mechanism; they may be said to be the motor expression of the emotions. When certain emotions are intensified, the subjective or passive state may be described as one of *Desire*. Such instincts or desires include the various appetites and propensities, and consist of the essential strivings, impulses, or motives to action. These constitute the innate conative tendencies of the mind. Congenital and therefore involuntary in origin, yet, under healthy training in the human species, they may be brought under the control of the Will as development proceeds, in accordance with the plastic nature of the supreme nerve centres. In the lower animals the higher brain areas contain perceptual rather than ideational areas, and instincts reign supreme; indeed, the whole life of most animals is largely composed of a blind obedience to their organised nervous mechanism; many animals, however, also learn from experience and display intelligence.

There are two fundamental desires or instincts from which all others are derived, viz. (1) the Desire to Live, and (2) the Desire to Reproduce. Of these two instincts it is doubtful which should be given priority. From Nature's point of view the organism is preserved solely for the purpose that it may be perpetuated.

From (1) the Desire to Live, or the Love of Life and the Fear of Death, are developed the self-conservative or egoistic activities, viz. the appetites for food and drink to maintain the body in a healthy state of nutrition; the necessity of earning a living; the desire for exercise, and the display of energy; the avoidance of dangers, including the necessity of cleanliness and hygiene.

From (2) the Desire for Reproduction are developed the altruistic activities. The sexual instinct in its highest refinement is crystallised into the passion of Love; derived from it are the duties of parentage and the affection for the offspring, with the tenderness and care for the poor and helpless in general.

From it arises also the social instinct, which is founded on family life, and develops as an individual finds he can thrive better in a community of his fellow men than when he is alone. It is at the basis of sympathy for others, and is the foundation of ethics and morals as well as of patriotism and religion. Freud in particular has enlarged our ideas on the wide area of activities fundamentally dependent on the sexual instinct.

In the growth of a child from infancy upwards it is of interest to watch the *development of movements and instincts* as organisation proceeds. This has been particularly investigated by Preyer. At first all movements are microkinetic and purposeless. Muscular contractions take place irregularly as an outlet for energy. Ordinary reflexes are practically absent during the first few days of life, except that of sucking; and nothing but the most primitive feeling probably exists, although reactions to light, sound, and touch stimuli are manifest from birth, and those to taste and smell follow soon after. The infant sleeps nearly twenty out of the twenty-four hours and spends the rest of its time feeding, or crying to be nursed.

At the fourth week the child smiles, and the eyeballs follow a lighted candle. At the ninth week perception is being established and objects are cognised and recognised. At three months purposeful movements are executed owing to the myelinisation of the pyramidal tract, which process is complete at the seventeenth month. At four months the nervous mechanism controlling the spinal muscles develops, so that the child begins to make attempts to sit up and it grasps at objects with the instinct to place them in its mouth. At six months the child's perceptive experience has taught it some notion of space and distance and the faculty of imitation proceeds. At ten months the child learns to crawl on its arms and legs, it imitates words and accepts suggestions. At about a year the child co-ordinates its muscles so as to gain its equilibrium to stand erect, and then begins to walk. At a year and a quarter the child begins to talk and shows indications of developing Will. At a year and three quarters curiosity and acquisitiveness are exhibited; the instinct of cleanliness manifests itself and the child should cease to be wet and dirty. Ideas of time follow. At the seventh year, if not before, con-

structiveness takes the place of destructiveness. At puberty the secondary sexual characteristics develop, with ideas of modesty and shame, and jealousy supervenes later.

During adolescence the ideational centres receive fresh impetus from educational training and the storage of experience, and the desire to energise is shown in interest for sports and pastimes. The young man seeks to earn his living, the girl develops into womanhood, and matrimonial unions ensue.

Physical Basis of Instincts.—This has the same nervous mechanism as is the case with emotions. In emotions, however, the expenditure of energy is subjective in the domain of feeling, and the expression thereof or motor element is to a great extent abortive or repressed; whereas in instincts, the nervous currents for the most part are directed into motor tracts. An external perception or subjective idea distributes currents of energy from the association areas to the congenital nervous tracts for the execution of the different instinctive movements, which are accompanied by more or less feeling. Instincts are the springs or groundwork of all conduct, but are subject to the correction and restraining influence of Will through currents passing from the cortex down the pyramidal tract.

Disorders of Instincts.—Instincts may be (1) Exalted, (2) Deficient, or (3) Perverted. They are for the most part exalted in Mania, General Paralysis, Epilepsy, Paranoia, and Alcoholic insanity; patients desire to energise too much and are morbidly restless, sometimes they eat enormously; the sexual instinct in particular tends to become uncontrolled.

They are deficient in Melancholia, Dementia, and Amentia, *e. g.* aversion from food, laziness and lassitude, unwillingness to take part in recreations, incapacity to earn a living.

They are perverted in many mental disorders. Amongst these perversions are apathy or hatred towards relatives, *e. g.* the puerperal woman frequently takes a violent dislike to her husband and child. Here may be included also many evil practices mentioned under bad habits. Special notice must be given to perversion of the two primary instincts of self-preservation and reproduction.

Perversion of the Desire to Live occurs as Suicide and in its minor degree as Refusal of Food.

Suicide.—This is a common symptom in Melancholia and occurs also in Alcoholism, Epilepsy, Psychasthenia, and other conditions. It may be due to worry and insomnia, or be the result of delusions—that a patient is unfit to live, that he is ruined financially or morally, that he is contaminating others; or it occurs to avoid imaginary persecution, to escape illness real or imaginary, to save trouble or expense, or from a general state of misery. It may be impulsive, premeditative, or it may result from confusion; an unsuccessful attempt sometimes leading to the patient's recovery. It may also occur from auditory hallucinations commanding a patient to commit the act. In Delirium, Mania, and General Paralysis it occasionally happens by accident. Suicide is not confined to insanity and it may be committed to benefit others. It is more frequent in some nationalities than in others, and its incidence is higher in the spring and summer months.

Refusal of Food.—This occurs in Melancholia in most cases, but also in Mania, General Paralysis and other conditions. It is more common in private than in pauper patients. It may be due to delusions and hallucinations, the patient believing that the food is poisoned, that it tastes or smells bad, that solids and liquids decompose within him, that he feels too wretched to eat, that he is commanded not to eat, that he cannot swallow, that he is blocked up, that he desires to give trouble, or that he wishes to die.

Perversion of the Sexual Instinct may arise from absence of desire, or from excessive desire accompanied by malpractices; or desire may be dormant and be aroused only by abnormal means such as a scent or fetish of some kind, or by flagellation, active or passive. It occurs also as Masturbation and Sexual Inversion.

Masturbation.—This is in great measure due to bad example in youth. It is more frequent in the male sex, and is to some extent an index of nervous instability, and occurs even in young children. It is common in acute insanity, especially in adolescent cases, and also in some degenerates. To a special class of the latter belong those who practise the vice before religious shrines, or as "exhibitionists," and are amenable to the law for public indecency.

Sexual Inversion.—In this anomaly desire is towards the

same sex (homo-sexuality), and may be active or passive. It is probably not more common in the insane than in the sane, but occurs in some Degenerates, male and female, and is sometimes associated with Paranoia. Its practice renders the parties subject to the criminal law.

Will. Volition (*or Voluntary Action*).—An act of Will finally determines the conduct of a normal individual. This "fiat" of the will may be said to exist in all creatures having a certain development of the association areas of the cortex cerebri, such as exists in Mammalia, and in the highest degree in the human species. Deliberation as a result of the association of ideas comes into play, the emotions and instinctive tendencies produce their quota, resulting in what is called a choice in the conflict of motives. This choice is guided in the long run by feelings of pleasure or pain, until finally the idea of a purposive act leads to its "intention" and results in its performance. A volition or voluntary act is in reality a reinforced ideomotor act. It tends to be facilitated by repetition as do other mental processes, although at first it demands attention and involves effort (conation). The Will of a fully developed healthy man may be considered that force in Nature in which Consciousness reaches its acme.

Upon the complexity of the association of ideas, dependent on the cerebral cortex with which the individual has been endowed, and upon the education and experience to which he has been subjected, does the nature of his act of Will turn. On the stability of his judgment rests the strength of his will-power, and his resulting actions. To the individual experiencing a conflict of motives, as well as to others who bear witness to his actions or intentions, his Will is free. A man says he has choice to move to the right or to the left, as he wishes or wills, and his muscles perform a voluntary act. Without entering into the obscure region of Metaphysics the student may take it for granted that such so-called freedom is governed by the organisation of his complex mental processes which ultimately determines his conduct. The closer a man's character is known the more certainly can his actions be predicted in any possible course of conduct. Punishment for actions committed against the public weal must, however, rightly be visited upon the law-breaker, seeing that his

mal-organisation has largely proceeded from failure to stimulate his higher nature, and neglect of those duties in life that conduce to his best development and the welfare of others.

Will is spoken of as inhibiting or controlling the instincts of mankind or those desires which mainly actuate conduct. Will can hardly be said to exist before the age of fifteen months; it grows year by year *pari passu* with mental development, and fails as old age approaches.

Impulsive Action, commonly called *an impulse*, is an action short of full deliberation and control. This occurs in children and young people with immature will-power, and in mental disorders where inhibition is markedly wanting.

Habitual Action, or a habit, is voluntary action which from repetition and facilitation is almost becoming automatic, *e. g.* early rising, punctuality, etc. Habits are conscious actions and may be good or bad, the latter playing no small part in mental disorders.

Automatic Action is that which was at one time voluntary, and from constant repetition by training and education has become organised, and therefore scarcely affects consciousness, *e. g.* walking, piano-playing, and other dexterities.

Physical Basis of Will.—The association area of the Pre-Frontal lobes is regarded as the material substratum for the ideomotor centres, and here probably also nervous energy is concentrated for the still higher operations of Will. The ideomotor centres may be considered as being informed by impressions or images received through fibres of the association neurons from the kinæsthetic centres in the sensory area of the parietal lobe, rather than by reversed currents from the motor area, producing the so-called sense of motor innervation.

The springs for Volition may be said to arise from all parts of the cortex, but in right-handed people it has been suggested that the left pre-frontal lobe has the pre-eminence in co-ordinating voluntary movements, and probably those that are impulsive also; whilst habitual and automatic actions may possibly be relegated to activity in the right pre-frontal lobe. In the latter the synaptic resistance between the neurons has been overcome by constant repetition, but in voluntary acts the synapses still exert their full influence and give rise to the

feeling of effort and inhibition; impulsive acts may be regarded as those which are wanting in full volition.

The pre-frontal lobe, by means of association fibres, receives afferent impressions through the other association areas from the perception and ideational centres; it sends efferent impulses through the motor area and efferent projection system to the pyramidal tract and bodily musculature for the execution of voluntary movements; it thereby drains away nervous energy from the instinctive mechanism.

The motor area (Fig. 15) may be regarded as consisting of two parts, viz. (1) the ascending frontal or pre-central convolution for the primary muscular movements, and (2) the posterior part of the first, second and third frontal convolutions which subserve higher muscular mechanisms (dexterities), including the motor mechanism for speech and that for writing; both of which are in commissural connexion with the sensory or kinæsthetic area in the parietal lobe, and with the auditory and visual perception areas as the diagram overleaf (Fig. 17) illustrates.

Disorders of Volition.—The will-power may be (1) Excessive, (2) Deficient, or (3) Perverted. Excess of will-power can rarely be regarded as abnormal, but the condition called *Hyperbulia* does occur in the obstinacy and persistence of many delusional cases, in some imbeciles, and in self-willed children. Defective volition is a common feature in mental maladies, the association of ideas may be unaccompanied by proper feeling, and the patient experiences an equality of motives which paralyses his actions. Such weakness of will, or failure in impulsion, is designated *Abulia*, and is particularly marked in Psychasthenia, leading to inaction or to acts of indecision and doubt. In obsessional cases, phrases are apt to recur, and obscene expressions may be uttered (Coprolalia), the patient being the victim of imperative ideas and phobias. These continually obtrude from the weight of emotional stress, which produces complexes that are beyond the control of the Will and may lead to impulses. In Stupor and Dementia the will-power may be stated to be wanting, and in "Automatism" from Epilepsy, Hypnotism, or Somnambulism, it is entirely absent. In intermediate conditions, such as mild degrees of Dementia and in General Paralysis, the will-power is *Facile*,

the patient responding as a rule easily to suggestions. Perversion of Volition shows itself in morbid actions, impulses, and habits, resulting from delusions and hallucinations or from excessive emotion in acute insanity. Impulsive actions occur sometimes of an objectionable or even dangerous character, in Epilepsy and other mental disorders, such as indecent exposure, or sexual vice, impulses to strike, to steal, to burn, to drink, to commit suicide or homicide. Suicide has

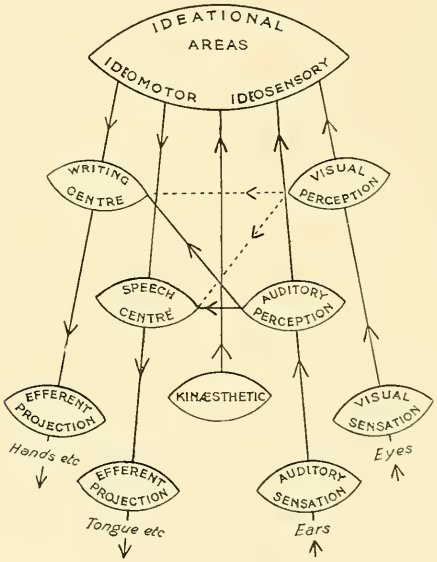


Fig. 17.—The language mechanism—speech and writing.

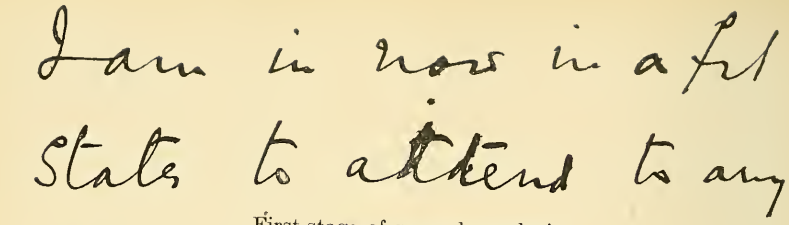
already been referred to as a perversion of instinct. It is sometimes associated with homicide which may be either impulsive or premeditated, and is frequently due to "voices" or delusions, the latter being at times concealed by the patient till the act has been performed. Of less import as regards others, but implying serious mental reduction are those insane habits—stereotyped movements, mannerisms, and negativism—which occur in Dementia Præcox and have become automatic and are incapable of correction by the patient. Similarly must be mentioned the bad habits which occur in many forms of insanity, and especially in chronic Mania and Dementia, such as

wet and dirty habits, destructiveness, noisiness, fidgetiness, *folie du toucher*, carelessness in dress, removal of clothing, eating filth, the collection of rubbish, etc. Nervousness shows itself even in the sane individual by a general restlessness, the biting of nails, etc. The terms *apraxia* and *dyspraxia* are applied to the inability of, or difficulty in, carrying out movements from pre-frontal dissolution, as in Senility, Alcoholic and other conditions, owing to the loss of memory of motor ideas. It may also be due to imperception (sensory apraxia, *vide* p. 36). Thus a patient may not know what a pen is for, whilst in motor apraxia he has lost his ideas for the requisite movements to write or to speak. *Echopraxia* is the imitation of the movements of others. The ideomotor centres are also occasionally disordered, so as to give rise to psychomotor hallucinations or imaginary movements.

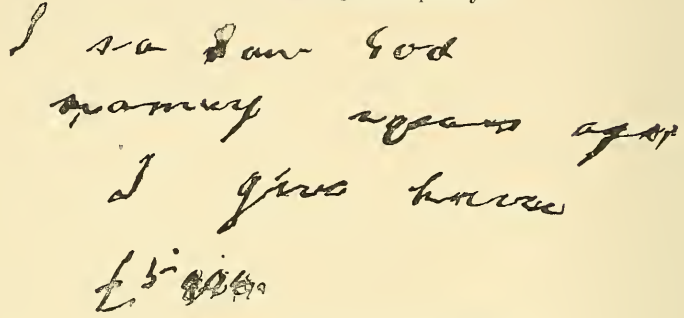
Lastly, Volitional action is necessarily to some extent interfered with by any lesion of the efferent or motor tract, as in hemiplegia. Right hemiplegia is invariably accompanied by motor aphasia and agraphia, from affection of Broca's convolution and the writing centre respectively, or as Marie has suggested, from subcortical injury.

Disorders of Speech are exhibited by incoherence, confusion, mere rambling (mental wandering), or by too rapid or too slow association of ideas. Mutism results from absence of ideas, or more generally from delusions, or from congenital deafness. Hesitancy of speech and clipping of words are witnessed in General Paralysis and Alcoholic Psychoses; and Aphasia occurs in these conditions and also in Senile Insanity. Verbigeration and Echolalia have been already mentioned (*vide* p. 43). Stammering and stuttering are less common in the insane than in the neurotic stocks whence they spring.

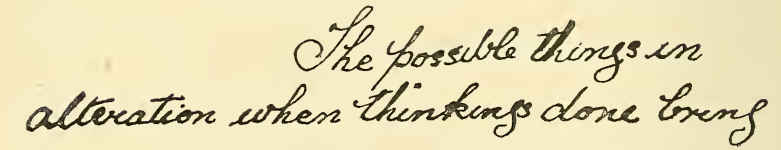
Disorders of Handwriting are well demonstrated in General Paralysis, letters and words being wrongly inserted or left out, tremor is shown, and the calligraphy is altered in size. Excited General Paralytics in the early stage write much, as do also Paranoiacs, the latter sometimes using codes and illustrations to explain their delusions. The writing of patients suffering from Dementia Præcox betrays the characteristics of that disorder. Frequently Melancholiacs write with small letters and Maniacs with large letters.



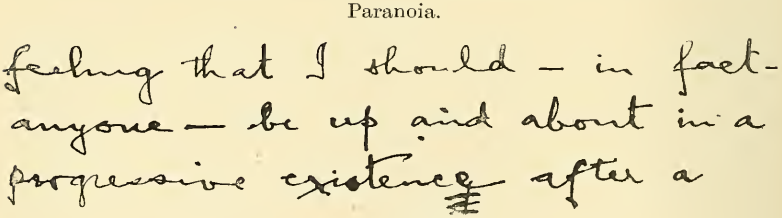
First stage of general paralysis.



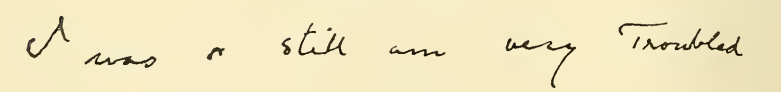
Second stage of general paralysis.



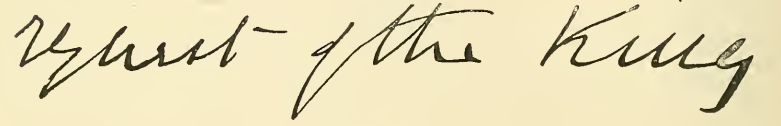
Paranoia.



Dementia Præcox.



Melancholia.



Mania.

FIG. 18.—Handwriting in the insane.

Attention is the process by which an individual is able to concentrate his mental energy in a specific direction.

In order to perceive clearly, the body must be posed for the reception of stimuli from the objects perceived. A state of Apperception (*vide* p. 35) is reached with regard to a central object, and its surroundings merge into the fringe of the field of Consciousness. In ideation also, the association of ideas is, or ought to be, under the control of the act of attention. Without attention there would be no concentration for co-ordinate action. In order to think clearly the stream of mental energy is directed to a circumscribed association tract, and external stimuli are passed unheeded. The ability to learn from a book or from a lecturer likewise means mental concentration on what is read or heard, and is largely developed by habit. Abstract ideas involve closer attention than is necessary for concrete object lessons. Thus is explained the utility of practical demonstrations, and indeed that of the whole kindergarten system of teaching for children.

Laws of attention have been formulated with regard to the number of objects that can be attended to (up to five or six), the degree of attention, its fluctuation from a condition of inertia to a state of tension, its effect on the intensity and duration of sensations, and its relation to fatigue.

Varieties of Attention.—Attention may be (1) *Active*, or voluntary, which demands effort, or what is generally known as *Conation* (conor, "I strive"). It develops gradually during the education of the child and does not reach its full power until maturity, when Will and self-control are fully developed.

(2) *Passive*, or what is called reflex and instinctive, which is dependent on what *interests* the person and is due to both congenital and acquired dispositions. This condition is involuntary and is without any feeling of strife or sense of effort. It also exists secondary to attention that was at one time active and by constant repetition has become automatic.

Physical Basis of Attention.—As the word—Attention—implies, a state of tension of certain parts is usually in process, which results in fatigue unless relaxation follows. In passive attention, however, the nerve currents are on an organised lower level and easily set the muscular mechanism in action. In active attention the perception or idea is accompanied by

a drainage of nervous energy from other cortical centres, which energy is concentrated into the highest association areas in the pre-frontal lobe, mostly of the left cerebral hemisphere. The currents pass through the motor area and pyramidal tract to the musculature in general, and especially to the muscles of the head and neck, the eyeballs and face. This produces what is called the *muscular element of thought* of Bevan Lewis; and it is probable that a tendency to abortive contraction of the speech muscles takes place during the process of concentrated thought.

Disorders of Attention.—These are (1) Excess of the passive form and (2) Defect of voluntary attention. As passive or instinctive attention is increased (*hyper-attention*) in cases of Mania, so in that disorder is active or voluntary attention weakened (*inattention or distraction*). These processes also occur in Acute Melancholia, Confusional insanity, and Congenital states. In Chronic Melancholia, Stupor and Dementia, attention, both passive and active, may be said to be absent, whilst in Obsessional cases passive hyper-attention may be said to be automatic.

Summary. — The Psychology that has been described in the foregoing chapters is to be regarded as a dissection of mental processes with their relationships and evolution. As has been already mentioned, the synthesis or sum of these processes at any one moment represents the ego or soul of the individual in the unity of Consciousness. Sensation, with its cognitive element and its affective tone, is the primary factor in our mental life. Sensation is due to the assimilation of molecular motion which has become transformed within the organism. Mental operations should be regarded in the same light as the phenomena representing the reflex arc on the lower planes of the nervous system. The subjective aspect of the reflex arc begins with sensation in Consciousness and ends in action or conduct (unless dissipated in reflection), the middle or highest part of the arc being occupied by thought and emotion.

Memory is a fundamental process of neural activity, and is developed from a species of primordial memory that pervades all protoplasmic organisms. Thus, a nervous current

or synaptic impression tends innately to be remembered. Were it not so, mental development would be impossible. From sensations, special and organic, are developed perceptions with their associated tones of feeling. As perception presupposes the memory of previous sensations, so ideas or thoughts are the revived memory images of past perceptions, and the so-called faculty of memory becomes developed. Ideas have their correlated and connected tones of feeling, the complexity of which forms the emotions, the more intellectualised of these latter being the basis for the moral and other sentiments. The result of ideational associations unless expended in introspective thought, are acts of Will or volitions, just the same as the effects of emotional states are instincts or instinctive desires

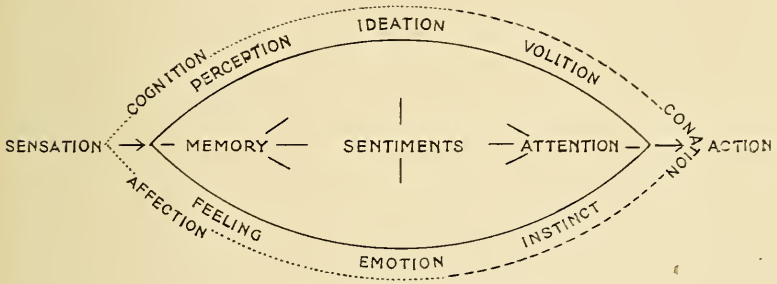


Fig. 19.—Diagram of mental processes.

to act. These latter form, indeed, the fundamental basis for action which Will directs, inhibits, or controls according to the implantation of its dispositions. Thus are displayed the full conative forces of the individual. The process of attention comes into play throughout, being active in the higher plane and passive in the lower.

As all these mental processes are so closely connected and are interdependent, it is scarcely possible for one process or function to be disordered without implication of the others. Mind, indeed, energises as a whole, although its manifestations in health or disorder may be more evident in one direction than in another.

A person's mental reaction is dependent on the elaboration, quality, and stability of the brain cortex, with which he has been furnished by his forefathers, and by the moral discipline

and experience to which he has been subjected. His natural endowments are due to the stock whence he springs, although even then a degree of uncertainty occurs as to his essential nature, for positive knowledge is at present wanting to foretell what mental traits or transmissible units have, or have not, been inherited in any given case. His future training and acquirements are, however, matters under control by educational means, subject to his constitutional vitality and to the inherent potentialities of his cerebral cortex. These potentialities are dependent on nervous structure and function and explain personalities in different individuals, as well as the characteristics of the various races. Thus the white man, the black man, the Anglo-Saxon, the Celt, the Slav, the Jew, vary in their feelings and ideas, not in accordance with civilisation, custom, and training only, but probably also in the essential bio-chemical quality of nervous tissue. So also the study of the psychology of sex leads one to regard the egoistic traits in men and the altruistic tendencies in women to be chiefly dependent on organisation. Women react quicker because their actions are based more on their emotions than is the case with men, who are given more to deliberation before coming to conclusions.

The medical student will do well to follow out mental processes as far as possible on a neurological basis. Without this, he is apt to get into psychological depths and to traffic with words which for him will have no definite meaning. He will find that in insanity there is bodily disorder, as in other departments of Medicine, although the disorder is necessarily more intricate, concerned, as it is, principally with such a complex structure as the Cortex Cerebri. He will learn that processes occur in Mental Diseases which are often but an exaggeration rather than a perversion of those occurring in sane individuals. He will realise that insanity is due largely to an arrested evolutionary state or to a partial and irregular dissolution or dissociation of brain faculties, as exhibited in disorder of feelings, ideas, and actions and in failure of voluntary attention and higher control.

CHAPTER VI

THE DIAGNOSIS OF INSANITY

The differentiation of the forms and varieties of insanity from one another will be referred to later, when considering them individually. It is here proposed to inform the student of certain principles which will enable him to determine whether a person is insane or not, and to give him some guide as to the means of examining a patient with regard to his mental condition.

At the outset it should be mentioned that mental disorder can exist without insanity, and also that insanity differs in the legal sense in its application to certain circumstances, such as the making of a will, or the determination of responsibility for a crime, to which attention will be directed in a subsequent chapter. In the ordinary medical sense, insanity is such unsoundness of mind as renders a person a fit and proper person to be detained under care and treatment, and to be certified as such.

Conditions resembling Insanity.—These are usually excluded from the category of technical insanity by reason of their temporary nature, or of the slight degree of mental aberration displayed. They may, however, gravitate into actual insanity, owing to the persistence or increase in acuteness of their symptoms. These include—

Delirium from such diseases as Pneumonia, Typhoid, Typhus, Septicæmia, Uræmia, Rheumatic Fever, Malaria, Cerebral Meningitis and Concussion. These can usually be diagnosed with ease, and in most cases there is pyrexia. In the absence of bodily complications it may be said that there is no rise of temperature in insanity except in Acute Delirious Mania, in some Puerperal cases, in the congestive seizures of General Paralysis, and in Status Epilepticus.

Intoxication.—Alcoholism is both a cause and a symptom of insanity. Drunkenness (or Inebriation), which is its temporary manifestation, is not legally regarded as insanity, whilst Delirium Tremens is.

Drug States, such as are induced by Opium, Morphia, Cocaine and other sedatives. These exhibit mental symptoms which, when transient, are also excluded from insanity.

Aphasia may be accompanied by little mental disturbance, the patient being able to express himself reasonably by signs and gestures. In other cases it is associated with insanity, as are some other conditions due to Gross Brain lesions.

Hypochondriasis is also generally differentiated, if of mild nature and unaccompanied by suicidal tendencies, and if it does not interfere with the patient's ordinary course of life.

Hysteria frequently produces strange conduct, mostly due to suggestion, but it does not usually mean certifiable insanity.

Eccentricity, unless suddenly acquired, or very pronounced, and involving interference with others, is hardly to be reckoned as insanity.

Other Conditions that might be mentioned are Somnambulism, Hypnotic Trance, Coma, mild states of Neurasthenia, Psychasthenia, or of Depression (some of which, however, are liable to pass the border-line). Criminality is usually distinguishable from insanity but may be associated with it.

One more condition demands special notice, viz.:—

Feigned Insanity—Although now and then an insane person with delusions says he is feigning disorder in order to escape punishment for an imaginary crime, the malingerer always has some real motive in endeavouring to produce deception. It is not infrequent in soldiers and sailors who desire to obtain their discharge. It occurs sometimes in workhouses to enable an inmate to be released from manual work. Occasionally an undesirable person is anxious to be certified and he assumes a false name to escape police vigilance, or, as has happened, a person tries to gain admission to an asylum for newspaper purposes, or a criminal feigns insanity to avoid prison, or in the hope of being transferred from prison to an asylum.

The symptoms and signs are invariably overacted and can usually be detected by careful observation and close watching. Sleeplessness, incoherence, refusal of food, etc., are difficult to continue or simulate for any length of time, and when the person thinks he is unobserved, he remains normal. The most difficult cases are those who say they hear "voices."

Definitions of Insanity.—Insanity, as its etymology implies, is the negation of sanity. It has been defined as a perversion of the Ego. This is correct so far as it goes, but the Ego is not a constant quantity and is to a great extent unknown. Again it has been defined as disorder of conduct—but conduct may be regarded as far from normal in many original or eccentric people, in religious and political martyrs, and in criminals, who cannot be considered insane.

An eminent jurist, the late Mr. Justice Stephen, defined insanity as "a state in which one or more of the mental functions are performed in an abnormal manner, or are not performed at all by reason of some disease of the brain or nervous system."

Dr. Maudsley, in the opening chapter of his philosophic work on the *Pathology of Mind*, writes: "By insanity of mind is meant such derangement of the leading functions of thought, feeling, and will, together or separately, as disables the person from thinking the thoughts, feeling the feelings, and doing the duties of the social body in, for, and by which he lives."

It is, however, necessary to warn the student not to give a definition of insanity in a court of law. If asked for one in the witness box, it is best to reply that insanity assumes so many forms that it is impossible to frame a definition which is satisfactory and can be generally accepted. Thereby he may probably save himself from adverse cross-examination which might discredit his case.

Sanity and Insanity.—Mental disorder with aberration of conduct amounting to insanity may be recognised at once in many cases. In others the condition may only be slight, so as to be a matter of diverse opinion, even amongst experts, and to be dependent on the personal equation of the physician. Insanity, moreover, may be latent or concealed, so that it may be necessary or advisable to make more than one examination of the patient to arrive at a diagnosis.

The onus is thrust upon the medical profession in the first instance, in the decision as to whether a person is insane. It must be remembered that every person is regarded as sane in the eyes of the law until it has been proved to its satisfaction that he is insane. No medical man, however, is bound to accept the responsibility of signing a certificate of insanity, although if he believes a person to be insane and has sufficient facts to certify to, he should do so when requested, unless he has good reasons for refusing.

A consultation with another medical man is frequently the wisest course in a difficult case. If a person is insane, and is allowed to be at liberty, there are the risks of reckless extravagance and ruin to be faced, or may be of suicide or of acts of violence, or he may at any rate be a nuisance to those about him. On the other hand, if certified as insane without adequate justification, there is the possibility of legal action for interference with the liberty of the subject. Both contingencies have to be considered, and the practitioner must show his force of character in coming to a right decision.

To ascertain the mental state of an alleged patient, a careful examination is therefore necessary. This will include: (1) an analysis of his mental faculties so far as this can be arrived at by observing his conversation and conduct, and his replies to various questions; (2) an examination of his special senses and general bodily condition. Particular notice should be taken of anything that the patient *says* and *does* which point to mental derangement.

As much evidence as possible concerning the patient's general behaviour should be obtained beforehand from the relatives, and from others who are acquainted with him, especially from any nurse who happens to be in attendance. From the relatives, also, must be gathered facts concerning the previous illnesses and the personal and family history of the patient. Their evidence must be weighed carefully. In some instances there will be found a tendency to exaggeration in their statements, but more commonly they minimise the symptoms and the signs of disorder with a view to prejudicing the opinion of the medical attendant.

Insanity may be either a process of arrested development or one of dissolution and decay. It may be a gradual de-

formity of mind, or it may be an acute disorder. Often it is but an exaggeration of the fluctuations of the sane mind, and there must of necessity be cases which are on the border-line.

The so-called normal mind exhibits in many individuals periods of temporary aberration, of depression and self-depreciation, of elation and overweening confidence, or of irritability and querulousness, yet we hesitate to designate these changes of mood as insanity. Then again, the insane person sometimes has his lucid intervals and freedom from impulses, his conversation and conduct being apparently normal, yet the improvement too often is only transient, and he relapses, so that he is rightly regarded as insane.

In what the lawyers call Partial Insanity, a patient may often be found to converse rationally on abstruse subjects which are outside his particular delusional sphere, and thus he may pass as an apparently sane individual. It must be noted, in this respect, that not all the constituent mental elements are necessarily affected in an insane person, and that mental derangement may show itself in one direction only, and thereby incapacitate an individual from living as a free agent. Eccentric people or cranks occupy a neutral position; their ideas and conduct, according to the degree of abnormality, tending towards sanity or insanity.

There is in insanity a maladjustment of the individual to the environment of everyday life, like a square peg fitting into a round hole, and until the misfit can be remedied, friction and social discord must ensue. Such maladjustment is the essence of insanity. It is fraught with dire results as regards the patient, and it often leads to injurious effects on the environment and its component units. According to the degree of insanity which the patient exhibits must his environment be especially adapted for him, to promote his recovery and to protect society.

Amongst savages, as has already been mentioned, the insane one is either neglected, or done to death. He is of no use to his community, and he is therefore in truth "put away." With the spread of civilisation, methods have been devised for dealing with disorders, physical, mental, or moral. All cases of departure from the normal find a refuge either in a hospital, asylum, or house of correction, where proper attention can be

procured in the endeavour to restore the person to his normal condition. It is frequently a subject for remark that many of the insane are so orderly and rational in an asylum, but fail in these respects in the outside world. This is largely due to the special environment created for them when placed under care.

Criminality.—Just as there is no absolute line of demarcation between sanity and insanity, and between a fit of depression and an attack of Melancholia, or between a spell of excitement and an outbreak of Mania, so is there no exact division between a certain kind of insanity and criminality. There are many cases of instinctive criminality which can hardly be distinguished from moral imbecility or degeneracy, and it becomes a question whether a prison or an asylum is best for victims of such disorder. It has become fashionable in certain quarters to regard all crime indeed as moral disease, and to look upon punishment as the necessary form of treatment for its cure. Be this as it may, the student of Medicine should approach a case of the kind with an unbiassed attitude. He should bear in mind that there is a recognised distinction between vice, crime, and insanity, and he should seek for flaws in the mental condition outside the moral sphere as far as possible, when pronouncing a person to be of unsound mind. Moral defect, congenital or acquired, when occurring in insanity, without evidence of other mental disorder, renders it difficult to supply a satisfactory certificate. This is also the case when a person is subject to uncontrollable impulses, unless it can be proved that he is liable to fits of unconsciousness, or to states of automatism. Criminal tendencies, however, are frequently the outcome of delusions and hallucinations, which make the diagnosis the easier, especially if there have been previous signs of mental disorder.

Environment.—In testing the mental condition of any person and passing judgment on his conduct, the surrounding circumstances should always be taken into account. Most, if not all, actions are in reality responses to stimuli from the environment, and therefore the medium in which the individual is placed requires consideration. Conduct, which in one person or in one set of circumstances can be regarded as insane, may in another person or in other conditions be con-

sidered normal. Variations from ordinary grooves of conduct must not, however, necessarily be regarded as abnormal, and the student must be on his guard not to attribute every deviation from well-beaten paths as being due to disease or disorder. Some play of originality must indeed be allowed for in a certain proportion of people. Insanity is, however, often manifested as a departure from the social usages of the state of life, to which the person has been accustomed. No standard can well be set up, for of what use is it to compare the conduct of a man of education and culture with that of a tramp or of a savage, considering that their environments and reactions vary so much in comparison with one another. Again, racial characteristics must be taken into account amongst civilised nations.

What is most noticeable about the insane, as a class, is their lack of social qualities. They like to be alone, and take but little interest in one another and in their surroundings, this being due to a general failure of attention. A minority only have increased affections or a craving for the society of others, and any pretence to altruism.

Mental Wrecks.—In severe degrees of Idiocy, patients are quite unable to guard themselves against common dangers and pitfalls, and have to be cared for in all respects like little children. Not far removed from these are profound Dements who are bereft of normal habits, such as the instinct of cleanliness, and whose restless antics resemble the microkinetic movements of infants. Many are disordered in the primary instinct of eating, and bolt their food or neglect it altogether, and are given to acts of wanton destructiveness, being quite unable to occupy themselves usefully. Their mindlessness is exhibited in the vegetative life they lead, in their want of expression and in their mutism. At other times they find an outlet for their energy in incoherence and meaningless noises. Such cases are easy enough to diagnose, and although past recovery much may nevertheless be done to correct their morbid tendencies. Their bodily health is not up to the average by any means, as is generally supposed. Every case of insanity, indeed, shows some lowering of nutrition, but the organic functions for the most part are performed satisfactorily, so that many mental cases reach an advanced age, unless life is cut

short by intercurrent ailments, of which Phthisis and Pneumonia are the most prevalent.

Incipient Insanity.—It is, however, in the premonitory and early stages of mental disease, and in its slighter degrees, that the chief difficulties are presented as regards diagnosis. Many patients are then considered as cases of Neurasthenia or Hysteria only, and as a rule command scant attention. The first indications may, indeed, merely be regarded by the relatives as those of a so-called "nerve case" or of a "liver attack," although the characteristics of a mental breakdown may already be apparent. The most usual signs are insomnia, restlessness and irritability, sensory and emotional disturbances, change of character, failure of attention, and neglect of usual occupations. The relatives, however, later begin to be alarmed as to what is really going to happen. Under suitable conditions some undoubtedly recover in home surroundings; in others the attack develops further, and the patient has to be certified for special care. This is often a matter of anxiety to the practitioner, and he is only too glad to seek expert advice, when the opportunity is given. The asylum physician may have no difficulty in gauging the patient's insanity; it is in regard to an accurate prognosis of the case that his experience and judgment will be most severely tested, and his anxiety is chiefly felt when supervision is relaxed as a suicidal patient begins to convalesce.

The Patient's Insight.—In ordinary physical maladies mental symptoms are for the most part insignificant, and attract but little attention. The patient complains of pain, or feels out of sorts, and generally consults the doctor of his own accord. But in mental disease, although it is in reality bodily disease in which mental symptoms are predominant, the case is different. The relatives or friends usually ask for medical advice on the patient's behalf. The latter frequently has no proper "insight" into his condition and says there is nothing the matter with him, or if he has troubles he magnifies them out of all proportion.

Mental Cases in Private Practice.—There is not altogether the same difficulty in diagnosing insanity, and in deciding on the necessity for certification in a patient already well known to the practitioner, as there is in the case of a

complete stranger. In the latter event he should obtain if possible some account of the patient from those who have been associating with him. A medical man may be requested either by the relatives, or by a Justice, or by the Lunacy Commissioners, to visit a patient, in his home, in a workhouse, or in some other place, to give his opinion as to whether he should be certified or not; or he may be asked to report on a patient already detained in an institution.

Guide to Examination.—The medical officer of an asylum in examining, and taking the history of, a new case for admission, as a rule, is assisted by having various headings in his casebook to which his attention is specially to be directed. In private practice, however, no definite routine can generally be carried out, and the investigation of a mental case frequently involves much time as well as patience and tact. An opinion may be formed that a patient is insane, but sufficient facts may be wanting to supply a certificate until a second interview has been granted, and it may be advisable to have the patient watched in the meantime.

Except in some dangerous and rare cases, in which the practitioner may be advised to see the patient unannounced or without introduction, he should never attempt to disguise himself or pass as a layman or under an assumed name. Such finesse when practised inevitably does harm. It destroys the patient's confidence in his medical advisers, and renders future treatment more difficult. It may perhaps be best in some instances not to mention the exact purport of the visit, or possibly it may be stated that the relatives have expressed anxiety about him, and that they consequently desire a medical opinion as to his health. Embarrassment is occasionally felt by both patient and doctor in strained circumstances, the former sometimes being very impolite and the latter full of apologies. Occasionally it is necessary to obtain admittance to the patient's house by force; in such case it is best to obtain an order from a Justice for the visit. As a rule, however, there is no more difficulty in gaining access to a mental patient than to any other person requiring a medical examination.

The medical student has been taught to make an investigation of the bodily organs and functions seriatim in ordinary diseases, and he should likewise in cases of suspected insanity

make as far as possible a systematic inquiry into the various mental functions. He should test the patient's special senses, his perception, ideation and volition, his emotions, sentiments and instincts, together with the faculties of memory and attention.

Patient's History.—When taking the personal and family history of the patient from his relatives, inquiry should be made as to his previous illnesses, and as to his inheritance, not only regarding insanity, but also epilepsy, alcoholism, etc. The assigned causes of the mental breakdown should be ascertained, together with its duration and mode of development. Inquiries should be directed to the following points: Has there been a previous attack? What change in the habits and course of life of the patient has recently taken place? Is he different from his usual self? Is he sleepless or restless? Is he able to continue his occupation? Has he been addicted to alcoholism or drugs? Has he been leading a loose life? Has he ever had a fit, and if so what was its nature? In some cases it may be as well to probe back into his childhood. Was he backward in learning to talk or walk? Was he subject to convulsions or night terrors? Was he dull or precocious at school? Did he take part in games? What were his early character and temperament?

The Examination of the Mental State.—Take care you address the right person, if the patient is in the company of others. Observe his general appearance, his facial expression, his attitude, his movements and gestures. Is his attire untidy or unduly decorative? Take stock of his surroundings. After some conventional form of greeting or address, the conversation may be opened by inquiry as to his health, or by reference to the topics of the day. Ascertain his age and his civil state. Gradually questions may be put to him regarding any special troubles or worries he might have. Ask him how he gets on with his work, or his hobbies. His responses will indicate in some measure his mental reactions. They may be brisk, slow, friendly, hostile, frank, or suspicious; or there may be no response at all; or the patient may betray negativism. The character of his speech should be noted, such as difficulty in articulation, slurring, hesitancy, stammering, etc. Can he fix his attention on what is said to him? Does his memory

show impairment either for recent or remote events? Note also the association of his ideas. Are his associations slow or quick? Does he appear to have few or many ideas, considering his education and position in life? Is he obsessed by a narrow train of thought? Has he imperative ideas? Does he repeat himself unduly or does his conversation wander? Is he confused, verbigerent, or incoherent? Can he calculate figures accurately?

Does he narrate what is manifestly delusional, or are his statements based on facts which have been exaggerated by disordered judgment or emotion, and has he lost all sense of proportion? Compare his statements with those of his relatives. Some delusions are difficult to prove, *e. g.* when a jealous wife asserts infidelity on the part of her husband, and vice versa. Other delusions are difficult to elicit, the patient purposely concealing them, as often happens when a patient has been certified before. Sometimes delusions are best shown in letters or diaries. Examine the handwriting for repetitions or omissions of letters and words. Ask the patient how he sleeps, and if he has dreams whether they disturb him or not. If on the other hand he is sleepless, ascertain if this is due to anxious thoughts or not.

The next step is the patient's emotional state. Is he depressed, elated or apathetic? Does he exhibit calmness or excitement, and does his state change during the interview? Does he evince hatred against any one without provocation, and, if so, has he any weapons about him? If depressed, ask how far he has lost interest in life, and what are his feelings towards his family, and elicit any tendency to suicide. Find out the patient's explanation of his condition. If elated and excited, he will probably be loquacious and full of misdirected energy, and he will very likely resent any notion of being considered ill at all. If apathetic and devoid of all emotion, is this due to extreme confusion, or is he stuporous, demented, or congenitally deficient?

Examine his special sense organs, and if any are disordered, determine whether such disorder is due to peripheral or central causes, or to a combination of both. Test his perception with regard to each sense. Does he comprehend ordinary objects and know how to use them? Is he correctly orientated—does

he know where he is, and can he name the day or month of the year?

Is he troubled with illusions or hallucinations? Has he any delusions as to identity? Is he subject to visions, or imaginary noises, whisperings, mutterings or "voices," by night or by day?—A patient with aural hallucinations sometimes puts cotton-wool or wax in his ear, turns his head round suddenly as if listening during a pause in conversation, or replies to "voices" audibly or by gestures.—Does he complain of disagreeable smells, or say that his food tastes bad and that he is unable to eat it? Has he any anæsthesia or hypochondriacal sensations about his head or body, or in connexion with his sexual organs? Is he abnormally erotic or given to masturbation?

Inquire as to his recreations. Is he active, restless or sedentary? Is he given to peculiar mannerisms or to bad and defective habits? Is he aggressive, or subject to acts of indecision, or to impulses? Is he suicidal or dangerous? Does he exhibit loss of control by words or actions?

The Physical Condition.—Observe the complexion and general nutrition of the patient. Take his weight and note any loss. Notice any cranial abnormality, or stigma of degeneracy. Go through the various systems of the body. Examine the tongue, teeth, throat, and thyroid, and the digestive organs; ask about the appetite, and any tendency to constipation. Take the temperature and test the urine. In women inquire as to the menses. Examine the heart and lungs, and take the pulse rate and arterial tension. If in doubt as to Syphilis, apply the Wasserman test both to the blood and cerebro-spinal fluid, remembering that a negative result is no proof against the disease.—If opportunity be afforded for examining the cerebro-spinal fluid by lumbar puncture, the presence of lymphocytosis is strong evidence of the existence of General Paralysis, especially if plasma cells are also to be seen. An ordinary blood-count is rarely necessary although useful in some Confusional cases.

Notice if the extremities are warm, cold, cyanotic, or swollen, and if the skin, nails and hair are affected. Look for trophic changes and for any bedsores, bruises or marks of injury. Observe the patient's gait, the hand grasp, the muscular

development, and the presence or absence of any tremor or paralysis. Examine the reflexes, superficial and deep, especially the knee-jerks and plantar response, taking note of any extension of the big toe (Babinski). The eye movements should be carefully tested as well as the pupillary reactions to light and accommodation, to see if the Argyll-Robertson phenomenon is present. Note the size and shape of the pupils, and the extent of the visual fields, and if there is any nystagmus. In some cases examine the fundus oculi.

Be careful not to miss any physical signs of General Paralysis in a male case between 35 and 50, and examine the patient directly or indirectly for Syphilis.

Make Notes.—Lastly, during or after the examination make some notes. Do not forget to include the date, the Christian name and surname, the occupation and address of the patient as well as those of any informants in the case.—These will be required if the patient is certifiable, and a certificate is advisable, remembering, however, that a patient may be insane without necessarily being officially placed under care and treatment.

It is, of course, not requisite or possible to make a complete examination of every patient who is deemed to be insane; many cases, indeed, present no difficulty in coming to a conclusion, and a certificate can be supplied without much hesitation.

The diagnosis of insanity depends on a combination of symptoms and signs, the result of disorder of brain function. This is chiefly to be observed by the ideas a patient expresses, the moods to which he is subject, and the conduct he displays. All of these, being at variance with his normal condition, render him unfit to look after himself and his affairs, or to be at large without supervision.

CHAPTER VII

GENERAL CAUSATION

In the majority of cases of mental breakdown, there are certain conditions in the past history of the patient which may, with reason, be considered to have had a definite relationship to the attack of mental disorder.

These antecedents are regarded as causes, after careful scrutiny, so as to eliminate accidental or coincidental conditions, which in the light of scientific knowledge cannot be held as contributory factors to such an extent as to affect the Etiology. Many alleged causes, indeed, are largely symptoms of mental disorder only. The brain being, as it is, in connexion with every part of the body and with the external world, and receiving nourishment from the circulating blood, its mental and other functions must necessarily be affected continually for good or evil, and hurtful influences of all kinds may be regarded in a sense as causes of insanity.

Sometimes a case of insanity presents itself in which, in spite of a reliable history and a close examination, no adequate cause can be assigned, and as a result the return has to be made "cause unknown." More generally, however, it is a combination of possible causes that has to be dealt with in a given case.

The practitioner must be wary about placing too much reliance on the statements of relations as to what they consider causes of mental maladies. Frequently these are entirely erroneous, sometimes indeed facts are wilfully misstated or omitted, and this applies more particularly to matters of inheritance. In the upper classes the desire is to minimise the hereditary stigma as much as possible, and to find a loophole in extraneous circumstances, whilst in the pauper classes their ignorance as to family history is not infrequently

surprising, and relatives are not always available. In recent years, however, close investigation has been given to the whole subject of causation. The assigned causes of every certified case are carefully considered by the medical officers and pathologists of asylums, so that the information from the tabulated statistics of the Commissioners may be regarded as containing facts of sufficient value, from which correct inferences can be deduced.

Certain factors can be reduced to one sex more particularly, or even absolutely, as in the case of pregnancy in women and its consequences. In women, also, the organisation is such that they are more affected by the critical periods of life, and their more pronounced emotional nature renders the so-called mental influences of greater significance. Men, on the other hand, are more liable to the evils of Syphilis and Alcohol.

The official list of causes and associated factors of insanity, which has to be used in Institutions, is somewhat complex, and will, therefore, not be specially discussed. The list, together with the various percentages, is published in the Annual Report of the Commissioners to the Lord Chancellor.

It has been customary to differentiate the causes of insanity into—

Predisposing and Exciting,
Or Congenital and Acquired,
Or Principal and Contributory,
Or Physical and Mental or Moral.

In later years, however, it has been usual to make the following main division of causes into—

(1) Heredity, and
(2) Stress;

which will, moreover, enable the student best to grasp the causation of insanity, using the word Heredity in a wide application, and Stress (or Strain) as comprising both physical and mental or moral influences.

Heredity.—The result of sexual conception is dependent on the quality of the germ and sperm cells, and on the suitability of the one to the other, which is largely subject to the degree of sanguinity. As development proceeds, it is generally

obvious that the offspring resembles its parents both physically and mentally, and it becomes a matter for surprise when it is otherwise. It is not proposed to refer seriatim to the different laws of inheritance, so far as they are known, but only to mention some of their salient features. Thus, the progeny tends to inherit the qualities and attributes of its parents, one or both. Attributes that are common to both parents tend to become pre-potent. Certain attributes may be transmitted by one parent only, and appear at a specified time of life in the offspring. The transmission of attributes may also be in latent form and skip a generation (atavism).

On Mendel's hypothesis it is surmised that actual "units" exist, representing certain qualities. All of these units may or may not be transmitted; they may even be segregated and only develop in a succeeding generation. In some instances a certain ratio as to transmission has been found. This is, however, difficult to establish in the human species, as families are so small. Nevertheless the student should be acquainted with Mendelian principles as they seem to apply in the case of man, for instance in regard to eye colour. The pigmented or pure brown (or hazel) iris is dominant over the recessive unpigmented or so-called pure blue (or grey) iris, so that the colour brown appears in hybrids, but the colour blue can be extracted in the next generation. The grey or blue eye (which colour alone is present at birth in Western nations) owes its appearance to the purple of the uvea behind the iris, whereas the brown, hazel, or green eye has additional pigment on the anterior surface of the iris, and sometimes round the pupil only.

The following results are interesting and are generally accepted—using the term Pure as opposed to Hybrid :—

The union of pure brown eyes and pure brown eyes produces pure brown eyes;

The union of pure blue eyes and pure blue eyes produces pure blue eyes;

The union of pure brown eyes and pure blue eyes produces hybrids (brown);

The union of pure brown eyes and hybrids (brown) produces half, pure brown, half, hybrids (brown);

The union of pure blue eyes and hybrids (brown) produces half, pure blue, half, hybrids (brown);

The union of hybrids (brown) and hybrids (brown) produces half, hybrids (brown), quarter, pure brown, and quarter, pure blue eyes.

Brown eyes, therefore, are either pure or hybrids, the latter being probably commonest, but blue eyes are always pure, *i. e.* they breed true. Blue eyes are derived from blue eyes, or from hybrids; but never from pure brown eyes (in the first generation). The above is an instance of the transmission of one quality only, and has been confirmed in the case of the length of the vegetable pea, and of the colour of the andalusian fowl. But in the case of two or more qualities, the ratio is necessarily different. For instance, in peas with two different qualities in each parent, the one being dominant and the other recessive, the first generation is a hybrid with the two dominants. The second hybrid generation follows a different ratio, viz. in every sixteen peas there will be nine with two dominants, six with a dominant and recessive of either kind (*i. e.* three plus three), and one with the recessive. It is possible that Mendelism is only an anomalous form of heredity, and it is doubtful whether it can be applicable to the complexity of human qualities and characteristics generally, but this is a matter for future research. It may, however, be said that the characteristics of sanity are dominant over those of insanity and this is in accordance with Nature's effort to mend a stock, or else to end it.

Much controversy has raged over the possibility of the transmission of acquired characteristics, *i. e.* variations derived from the individual's life experience. Although it cannot be denied that the nutrition of the germ plasm of either sex is affected by the body generally and by its environment, most authorities adhere to Weissmann's view that congenital variations in the germ plasm alone are capable of transmission (mutism).

In mental diseases, experience demonstrates that brain weakness is more certainly transmitted through the mother and more particularly to the daughters, the latter being on an average more frequently affected than the sons. Instability

of the nervous system is what is transmitted, and it shows itself in manifold ways, the most constant of which is a type of convolutional constitution in which the association neurons are prone to disorder. In such a case of neuropathic inheritance it is impossible to forecast accurately what type of disorder is likely to eventuate. In this respect, the particular kinds of stress that operate as additional factors in a breakdown have considerable influence in the production of the insanity. In some instances the morbid transmission is "similar," thus Melancholia, *i. e.* depression of the Maniacal-Depressive group, is very prone to breed true, so also is Circular insanity, and to a certain extent this applies to Paranoia. A suicidal tendency is particularly liable to be transmitted, and it frequently manifests itself in a succeeding generation at the same time of life, and by similar devices. In this respect the force of imitation plays a part. The tendency to Alcoholism likewise betokens an unstable nervous system. Nevertheless, drunkenness in the offspring is not infrequently due to imitation. On the other hand, the morbid transmission may be "dissimilar," *i. e.* it may assume different types, namely, Epilepsy, Hysteria, Neurasthenia, Hypochondriasis, Alcoholism, Asthma, Chorea, Migraine, Stammering, Tics, Somnambulism, Eccentricity, Moral Degeneracy and the different degrees of Feeble-mindedness, Imbecility, and Idiocy. These transformations constitute the so-called Insane Diathesis, used in its widest sense.

A defective nervous system often shows itself by a want of balance or lack of proportion in certain aptitudes or mental functions—undue precociousness, excess of mathematical, musical or other artistic tastes, with corresponding loss of other talents, delayed puberty, sexual perversions, defect of will power or moral sense, anomalies of motor-sensory function, and other stigmata of degeneracy. Some authorities included metabolic and other disorders such as Diabetes, Gout, Rheumatism, Phthisis, etc.; but these can hardly be included in the same category, although marriage with those affected with these conditions, or with neuropaths is rarely satisfactory.

Hereditary influence is said to be "direct" when a parent has suffered from insanity or an allied neurosis, and "collateral" when brothers or sisters, aunts or uncles, or cousins

are affected. In the Commissioners' statistics, however, heredity excludes cousins, nephews and nieces, and offspring. A person with a bad inheritance from both father and mother, naturally has the risk of inheritance considerably increased. This universally accepted law has led many people to regard consanguinity as a potent cause of insanity. The ancient rulers in Egypt, however, are credited with making repeated incestuous marriages without interfering with the physical or mental virility of their offspring. Marriage of first cousins does accentuate the traits of the parents in the offspring, but if the contracting parties and the family stock are healthy and stable, such unions need not be discouraged on strictly medical grounds. Moreover, such cousinship may be largely accidental, and the make-up of the individuals both mentally and physically may be chiefly from the unrelated sources. It cannot be accepted that a person inherits half from each parent, and a quarter from each grandparent, as Galton originally formulated.

When insanity or its equivalents are pre-potent in a family, as shown by many members being affected, the morbid influence tends to appear earlier in life in the succeeding generation (anticipation); the degenerative psychoses become manifest, and the stock is finally extinguished by sterility. Were this to be otherwise, insanity would be even more general in the population than it is, although the system of treatment by segregation necessarily prevents its spread in a great measure and assists in its extinction. When, on the other hand, the neuropathic taint is but slight, it is more than probable that with prudent matrimonial unions, insanity can be eradicated in a third generation, and the maleficent units may escape further transmission altogether. Mott's valuable researches into pedigrees and family histories have given fresh impetus to the study of inheritance. In the London County Asylums, containing about 20,000 patients, he has found amongst them two instances of six in a family, three instances of five, twelve of four, eighty-five of three, and 752 of two.

Heredity must therefore be regarded as a most important factor in the production of insanity; yet, when a morbid hereditary influence is not very strong, many of the progeny remain normal, and there is a tendency to reversion to the

average type, which should be a solace to victims of possible mal-inheritance. In the present state of knowledge, it is impossible to say for certain which child has, and which has not, the seeds of insanity within it. In after life one breaks down, say, with Dementia Præcox, another is saved from insanity only by extra precautions as to education, training and occupation in life, whilst the rest happen to be reversions to the normal, and are able to cope with the ordinary stresses of life. The second example represents a type of the potentially insane person who, if he or she marries, is capable of transmitting insanity, probably as much as any certified person.

Insanity does now and then occur in a family in which, after all possible inquiry, no trace of serious blemish can be ascertained in the last three generations and there seem no adequate external causes. It may in such a case, perhaps, be due to reversion to some remote ancestral flaw, or it may be a novel congenital variation. As in the vegetable kingdom a bad specimen sometimes arises from the same seed along with good specimens, so it is probable that insanity can arise *de novo*, as does genius.

Family records of sane people, especially with regard to parentage, do not show anything like the proportion of morbid heredity that is obtained from the insane. A fair estimate from statistics shows that in the sane it is about 10 %—even if Alcoholism, Eccentricity, etc. are included.

A history of insane heredity is admitted in 22·7 % of male cases and 28·4 % of female cases received annually into asylums. If, however, hereditary instability, as exhibited by Alcoholism, Epilepsy, etc., be included, these figures would be increased by another 10 % in each sex. It is probable that ignorance and mis-statements render these figures too low, and that at least 50 % of cases of either sex should be attributed to transmitted influences of various kinds. About $3\frac{1}{2}$ % of admissions of each sex reveal signs of congenital mental deficiency. Sometimes, when no cause can be elicited, the fact of innate instability comes to light accidentally, by the knowledge of the patient having been under care elsewhere on some previous occasion. Many cases are derived from stocks in which, although devoid of insanity, there are psychic

stigmata of various kinds, *e.g.* people who are weak-minded or narrow-minded, morbidly impressionable or hypersensitive, highly emotional, suspicious or jealous—such characteristics often indicate a definite flaw in mental constitution which may be transmitted and may readily develop into insanity in the presence of stress. Such brains are scarcely on a level with those better developed ones which have been subjected to an attack of Acute Mania or Melancholia, yet the term heredity is not usually applied to the former.

Lastly, it must be mentioned that the germ plasm may be subject to deteriorating influences at the time of conception. Alcoholism is by far the most important of these, but an enfeebled state of health of the parents from many causes must be added. During some pregnancies, especially in illegitimacy with its attendant anxieties and privations, there is, from neglect of the destitute mother, not a fair chance given to the growing embryo, which is only too likely to turn out defective at birth, or to develop mental derangement in later life.

Stress.—By this is meant the operation of a strain on the constitution of the individual in excess of what it is capable of bearing in ordinary mental health. Every conceivable factor of an exciting or exhausting nature has at one time or another been attributed as a cause of insanity, and those only will be mentioned that are generally accepted. Stress, as a cause of insanity, as a rule, operates in an inverse ratio to the innate stability of the cerebral convolutions. A congenitally defective nervous system may break down under the stress arising from the physiological demands upon its vital energy during the processes of growth and development, or from the ordinary incidental circumstances of the environment, whilst it takes perhaps a blood poison, some severe privation, or a combination of similar causes to drive a person insane who is possessed of a sound and well-organised brain.

Stress, as applied to the causation of insanity, has been divided by Mercier into—

(1) Direct stress;
(2) Indirect stress.

Direct stress is that which affects the cerebral neurons

directly by interference with their metabolism through a vitiated or toxic state of the blood, by injury to the brain, intra-cranial hæmorrhage or disease, insomnia, or lack of nutrition. Direct stress affects males more than females. Although many cases have a neuropathic family history, it is possible for insanity to be produced in a healthy stock by a combination of causes involving stress of a direct nature. Indirect Stress is that which chiefly operates secondarily on the brain convolutions through bodily processes involving exhaustion of nervous energy, or by emotional disturbance, as a result of interaction with surrounding circumstances. To this variety of stress are neuropaths particularly liable, such as that due to the physiological epochs of life, the strain of bodily disease, sexual excess, the effect of a harassing environment, including the so-called moral causes of insanity. Stress, in the official list of causes tabulated by the Commissioners, is confined to mental stress only, and refers largely to these moral causes. It is divided simply into Sudden Mental Stress and Prolonged Mental Stress without further subdivision, the physical and bodily conditions involving stress being mentioned under separate headings. It need hardly be emphasised that mental stress acts through bodily agencies, and that mental and physical causes, although capable of differentiation, are at bottom both physical. The student will therefore do best to regard stress as comprising all agencies affecting the nervous system, whether physical or mental.

The division of stress into Direct and Indirect, although helpful to the student, is to some extent artificial, as some causes may be placed in either or both classes. Thus, environmental stress which may be both physical and mental in origin can be regarded as acting directly as well as indirectly. Indeed, a history of either, or of both, direct and indirect stress not infrequently occurs in many cases of insanity.

Direct Stress. *Toxins and Blood Conditions.*—Poisoning of the blood by certain bodies, which have a peculiar affinity for the cortical neurons, constitutes one of the most important elements in the etiology of insanity. Toxic products are frequently the result of organisms, and may be divided into: (*a*) Exogenous, or those introduced from without the body, such as Alcohol, Syphilis, etc.; and (*b*) Endogenous, or those

generated within the organism, many of which, however, are as yet chemically unknown. Amongst these must be mentioned deleterious substances, the result of fermenting and putrefying material in the alimentary tract, anti-bodies from defect of internal secretions (hormones), injurious products from perverted bodily metabolism, especially that of the cortex cerebri, and the results of nervous and muscular fatigue.

To some of these toxic agencies further reference must be made.

Alcohol, etc.—Alcohol *alone* is accountable for about 7½ % of insanity. The higher percentages that are often quoted represent cases in which alcoholism is associated with other factors, or where it is a symptom of insanity, or appears in the family history as a sign of unstable inheritance. An alcoholic heredity is met with in 6 % of cases of each sex. In districts where offences due to drunkenness are frequent, the insanity rate is apparently comparatively low. Besides being more common in the pauper than in the private class, alcohol as a cause of insanity is more prevalent in males than in females. Thus the statistics record alcohol with other factors as representing 26·3 % of male, and 10·4 % of female admissions to asylums.

The use of Morphia, Cocaine, Chloral, Veronal and other sedatives is becoming more general than heretofore. When they are taken for sleeplessness or other conditions for a prolonged period, mental disturbance results, especially in neuropaths. To these must be added Atropin, Cannabis Indica and other drugs.

Lead intoxication produces both acute and chronic mental disorders. Some other elements act similarly, such as Mercury and poisonous gases of various nature (CO_2, CS_2, etc.).

Syphilis, both congenital and acquired, affects the brain in many ways, producing Idiocy, Imbecility and various psychoses, including General Paralysis. Syphilis *alone* is answerable for 2·8 % of Insanity, or associated with other factors—12·6 % of males and 1·8 % of females.

Influenza deserves special mention; for, since the epidemic of 1890, it seems to be a somewhat frequently assigned cause of insanity in this country, viz. 3·4 % of males and 3·2 % of females, when correlated with other causes.

Fevers and Infections, such as Scarlet Fever, Smallpox, Typhoid, Pneumonia, Malaria, Septicæmia—particularly in the puerperal state or from vesical disease—all contribute to the causation of insanity.

Other bodily diseases which may affect the brain and mind through the circulation are : Heart and Lung Diseases which produce deficient oxygenation of the blood; Anæmias, primary and secondary; the poisons of Bright's Disease and Liver Disease; the auto-toxins of Dyspepsia and Constipation; Diabetes; Pellagra; Myxœdema; Cretinism; and Exophthalmic Goitre.

Privation and Starvation—Poverty, entailing insufficient nutriment to the blood, is an associated cause of insanity in not more than $2\frac{1}{2}$ % of admissions of either sex.

Insomnia in which the cortical cells are by force of circumstances deprived of sufficient rest and of necessary recuperation must be allowed as a factor, yet insomnia is more often a symptom than a cause of insanity.

Trauma, or injury to the brain, from a fall or blow, with or without fracture of the skull or laceration of cerebral tissue, necessarily leads to some mental affection, but rarely do such cases become inmates of asylums. Injury to the head, or body generally, sometimes lights up a tendency to Periodic insanity, Epilepsy, and General Paralysis, and it causes so-called "Traumatic Neurasthenia" (Hysteria), the relationship in other cases being obscure and often associated with mental shock. Injuries of various kinds are associated, as causes of insanity, with other factors in 5 % of male, and 1 % of female admissions.

Sunstroke, from affection of the heat centres, is an occasional cause in tropical climates, but it is apt to be overrated.

Gross Brain Disease, such as Tumours of the brain, Cerebral Hæmorrhage, Thrombosis, Meningitis, or Abscess, causes apathy or intermittent depression and excitement, but it does not account for more than 2·7 % of admitted cases of insanity.

Indirect Stress. *Puberty and Adolescence.*—The fresh impressions aroused by the development of the reproductive organs are liable to disturb the mental equilibrium of those of neurotic stock, or of children badly brought up or spoilt. At Puberty, the mental states of the two sexes tend to diverge,

the change being more marked in girls than in boys. On the other hand, the stress of Adolescence affects young men rather more than girls, and weeds out a considerable number of cases with a bad heritage. They are associated not infrequently with habits of masturbation. The stress of Puberty and Adolescence, with other combined factors, accounts for 5 % of admissions to asylums.

The Climacteric or Menopause.—The change of life between 45 and 50, with its ablation of ovarian function, is apt to perturb the nervous system even of normal women, and in the predisposed, with other factors, it causes about 8 % of admissions to asylums. In men the gradual decline in sexual capacity between 55 and 60 plays a less conspicuous part.

Senility.—This accounts for a large number of cases in asylums; in fact, it stands fourth in order of frequency in the Commissioners' list of causation, combined with other factors accounting for 11½ % of admissions. The brain wastage and decay of mental functions in these cases, proceed out of proportion to the deterioration of the rest of the body, and but rarely has there been pre-existent insanity earlier in life.

Childbirth.—This is a natural strain which in civilised nations affects women during pregnancy, parturition, and lactation. Some cases are also associated with septic processes, or with moral causes such as illegitimacy, etc. Childbirth alone accounts for 6 % of asylum admissions, but associated with other factors it causes 7½ %.

Sexual Excess.—This stress, being dependent on the innate sexual nature of the individual, which varies at different ages, is difficult to estimate. It shows itself as nervous exhaustion, especially in the male sex. It is sometimes a symptom of incipient mental disorder.

Celibacy in most instances cannot be regarded as harmful to the mental functions. The sexual nature can be repressed with safety, provided sufficient vicarious interests are followed as outlets for energy and the social side of life is developed.

Masturbation.—The habit of self-abuse is mostly to be regarded as a sign of nervous instability, and it may occur even in quite young children. It causes nervous exhaustion and a decline in the moral nature. The evil practice is more common in males, especially during adolescence, and is largely the result

of imitation. When the vice affects females, it betokens a further degree of instability. It is a contributory cause of insanity in those with a marked family history.

Sexual Inversion is sometimes provocative of Melancholia, but it is an anomaly, as a rule, unattended by pronounced mental symptoms, although occasionally it is associated with Paranoia, and frequently with Moral Degeneracy.

Impotence, when congenital, has but little effect on the mental functions of men, but if acquired from sexual excess, or from masturbation, it not infrequently leads to Melancholia with suicidal tendencies.

Sterility.—The disappointment of a childless marriage sometimes occasions unhappiness in women, but it rarely leads to insanity. Dyspareunia has been credited with being a cause in rare instances.

Other Bodily Diseases, which are associated with insanity and have not been included under the toxic group of direct stresses, are Epilepsy and other Neuroses, Arterio-sclerosis, Tubercle (1 % of each sex), Cancer (very rarely) and Local Disorders which have an influence in causing delusions, such as Aural Disease, Ovarian, Uterine, or Vaginal Disease, Ulceration of Stomach or Bowel, Aneurysm, New Growths, Bodily Deformities, etc. Epilepsy, with other factors, is assigned as a cause of insanity in 7 % of male and 5½ % of female admissions to asylums.

Environmental Stress.—Under this term are included the so-called mental or moral causes of insanity, which act indirectly rather than directly, chiefly affecting those with a neuropathic taint. From 25 % to 30 % of insanity can be attributed to mental stress associated with other causes, especially privation leading to nervous exhaustion. The mental stress may be of sudden origin, but more generally it is prolonged in nature. Associated with other factors, sudden mental stress causes 4 % of male, and 6½ % of female admissions to asylums, and prolonged mental stress 21½ % male, and 23 % female.

Worry.—This is common to emotional natures, and therefore it affects women rather more than men. In most cases there is a history of hereditary instability, and it is questionable whether the surrounding circumstances alleged to be productive of worry are always more than the ordinary incidents of

everyday life and can really be dignified by the name of stress. People who succumb to worry have almost always an unstable constitution, and the cause, therefore, in many cases is in reality a symptom of inherent mental disorder.

Business Anxiety.—The struggle for existence does not affect women so much as men, since the latter are, as a rule, the breadwinners. The inability to obtain a livelihood, or to maintain the standard of living, is both a symptom and a cause of mental disorder. Pecuniary losses and speculations must be regarded as factors. It must be remembered that insanity affects the rich as well as the poor, and that it is the change of circumstances that is frequently productive of stress.

Domestic Sorrow, such as family trouble, or grief at the loss of relatives and friends, affects women rather more than men.

Love Affairs also chiefly affect women, *e. g.* disappointments in love, broken engagements, seduction, desertion, etc.

Overwork, as a cause of insanity, is rarely due to muscular over-exertion. It arises sometimes from uncongenial or exhausting work without holidays or change of interests; but laborious private study leading to insomnia, or undue striving to obtain a high position, without regard to brain capacity, is a common cause of mental breakdown.

Occupations such as involve precarious earnings or those devoid of prospects, *e. g.* the life of most governesses, the æsthetic professions—artists, poets, musicians; retirement from business with absence of hobbies, etc.

Faulty Education, such as excessive stimulation of the developing brain without attention to physical health and mental capacity, neglecting to retard the precocious brain, etc.

Religious Excitement affects emotional natures for the most part. The religious element probably merely adds the mystic explanation to the pre-existing tendency to disorder. To say that religion is a cause of insanity is an exaggeration. Church revivals and spiritualistic *séances* are, however, productive of evil, especially during the period of adolescence in susceptible natures. Religious belief of whatever shade can only be beneficial to mental stability, as its antithesis (Doubt or Scepticism) is harmful to the average individual.

Solitude.—A lonely life is provocative of mental disorder. It is noteworthy that bachelors and spinsters figure high in the statistics of insanity. Abstention from marriage may partly be attributed to innate abnormality or to absence of opportunity, but it is a fact that the widowed are also more prone to insanity than the married.

Shock or Fright.—This is a sudden mental stress, which affects women more than men, producing about 1 to 2 % of cases of insanity. It becomes more frequent in times of War. It is sometimes accompanied by physical trauma, as in accidents, operations, etc.

Imitation.—Contact with the insane very rarely induces insanity. When it does occur, it is generally in Paranoiacs in whom mental disorder is communicated by intimate association, often of blood relations.

CHAPTER VIII

CLASSIFICATION

Some system of classification of disease is useful, and indeed almost necessary, to the student in every department of Medicine. It has been alleged to be somewhat of a reproach in the domain of Psychological Medicine that classifications of mental disorders are so faulty and so variable. To some extent this is true, but it is not altogether without application to other branches of Medicine. After all, a classification is only a grouping of diseases as a help to diagnosis, which grouping must change from time to time as our knowledge advances. It must be remembered that under the generic term of Insanity are included mental disorders which result from diseases, essentially different from one another, and which vary according to the type of patient affected.

The oldest division dates back to Hippocrates, and is what is called the *psychological* classification, viz. : (1) Mania ; (2) Melancholia ; and (3) Dementia. It has been elaborated by various authors, especially by Pinel, Esquirol, and Greissinger. The presence of delusions of a dominant character in due course led to the recognition of a separate class, which was first called Monomania, and afterwards Delusional Insanity. Many writers had pointed out that Mania and Melancholia sometimes alternated in the same individual, and were also accompanied by delusions in many cases. It was soon ascertained that Dementia was either primary, or that it was secondary to attacks of Mania and Melancholia or to other conditions ; but some of these cases, having been found to be congenital, became designated by the term " Amentia," in contradistinction to Dementia, thus marking off Idiocy and

Imbecility. Herein lay the doctrine of the failure of Evolution, viz. :—

Defect of involution (*i. e.* acquisition),
Disorder of mature mental functions, and
Premature dissolution,

which permeates modern classifications.

Later, Dementia of a recoverable nature was superseded by the term Stupor.

The association of Epilepsy with mental disturbance was known in ancient times, both being regarded as evidence of demoniacal possession at one stage, and later being relegated to a special group, viz. Epileptic Insanity (including Idiocy and Imbecility). The Epilepsy was considered the cause of the insanity, and not the effect of a *tertium quid* producing either conditions, or both of them.

It was not till the end of the eighteenth century that some cases of speech and other muscular defects were found to be associated with insanity. These cases exhibited a progressive enfeeblement of mind and body, ending fatally in the course of two or three years, and were put into a separate category that we now recognise as General Paralysis. Moral Insanity, Impulsive Insanity, and the Insanity of the Degenerate, were first described by Morel in the middle of the nineteenth century.

A classification on what was called *physiological* grounds, viz. Ideational, Affective, and Instinctive, had been laid down by Laycock and others, whilst one based on what is known of morbid processes associated with insanity, *i. e.* a strictly *pathological* classification, has been attempted by but few authors, and at present our knowledge for such a classification is not sufficient.

An *etiological* classification was first described by Skae, and has since been developed by Clouston. It has the obvious defect that the various causes of insanity do not always produce different mental disorders. Savage has done much to differentiate mental disorders according to the different periods of life, and has insisted on the close alliance of psychoses with neuroses.

Maudsley and Mercier both adopt a species of dual classification into : (1) Psychological Forms, or symptoms of insanity,

e. g. Mania, Melancholia, etc.; and (2) Varieties of insanity, viz. their etiological and epochal aspects, *e. g.* puerperal insanity, climacteric insanity, etc.; and this combination is at the basis of present-day *clinical* classifications. In Germany the schools of Krafft-Ebing and Ziehen have recently been eclipsed by the teaching of Kraepelin, which is tending to dominate psychiatry in this country and in America. To him we owe especially the conception of Maniacal-Depressive insanity, and clearer notions of Dementia Præcox (including Katatonia) and of Paranoia or Systematised Delusional Insanity. How far the new ideas, promulgated by Freud, concerning the problems of sex and the realm of the sub-conscious mind are likely to influence further classification remains to be seen.

For the Annual Reports of the English Commissioners in Lunacy the following classification promoted by the Medico-Psychological Association is now in use :—

I.—Congenital or Infantile Mental Deficiency (Idiocy and Imbecility).
Intellectual: (*a*) with Epilepsy; (*b*) without Epilepsy.
Moral.

II.—Insanity occurring later in life—
Insanity with Epilepsy.
General Paralysis of the Insane.
Insanity with Gross Brain Disease.
Acute Delirium.
Confusional Insanity.
Stupor.
Primary Dementia (including Dementia Præcox).
Mania : Recent, Chronic, Recurrent
Melancholia : Recent, Chronic, Recurrent
Alternating Insanity
} Maniacal Depressive Insanity.
Delusional Insanity : Systematised and Non-systematised.
Volitional Insanity : Impulse, Obsession, Doubt.
Moral Insanity.
Dementia : Senile, Secondary.

It will be observed that the above classification gives but

little clue to the etiological bearings in most cases. To assist the student, most textbooks adopt provisionally a *clinical* classification, which in this volume, for convenience of description, will be as follows :—

Maniacal-Depressive Insanity—
- Melancholia, Mania } (Intermittent).
- Alternating (Periodic).

Confusional Insanity—
- Acute Confusional.
- Acute Delirium.
- Stupor.

Paranoia (Systematised Delusional Insanity).

Amentia—
- Idiocy, and Imbecility.
- Congenital Feeble-mindedness.
- Moral Degeneracy.

Dementia—
- Primary, or Dementia Præcox.
- Secondary, Organic, and Senile.

General Paralysis (Dementia Paralytica).

Alcoholism and Insanity—
- Morphinism and other Drug Insanities.

Childbirth and Insanity.
- The Epochs of Life and Insanity.

Neuroses and Insanity—
- Epilepsy and Insanity.
- Hysteria and Insanity.
- Neurasthenia and Insanity.
- Psychasthenia and Insanity.

General Diseases and Insanity.
- Traumatism and Insanity.

It will be noted that the first half of this list mainly comprise forms of insanity, whilst the remainder are those associated with special clinical varieties, and they therefore to some extent include the former. It must also be stated that occasionally a case presents symptoms of a *combined or mixed type*. This is analogous to a combination of diseases in general Medicine, which is almost as often the rule as the exception.

Thus, a Maniacal-Depressive individual may develop Confusional insanity, *i. e.* Exhaustion symptoms, or a Congenital Imbecile may be the victim of Psychasthenia or Epilepsy; in fact, many insanities are engrafted on original mental defect. All insanities have been described as tending to Dementia—Terminal or Secondary Dementia being the stage to which most of the incurable invariably gravitate.

In the descriptions of the different mental diseases the usual method as followed in the textbooks on general Medicine is adopted as far as possible. In the symptomatology, however, a distinction is made between mental and physical symptoms, which is to some extent artificial. It must be borne in mind that the view is taken that mental symptoms are always associated with, or dependent on, nervous or bodily conditions, but that it is necessary to pay more attention to such symptoms than is customary in the examination of an ordinary medical case.

In general hospitals the student has been accustomed to find the departments divided, according to sex, into medical, surgical, ophthalmic, gynecological and other wards. In public asylums—or hospitals for the insane, as they should be called—besides making special provision for private patients as a rule, the insane of either sex are classified according to the wards for which they appear most suited, viz. according to the amount of supervision thought to be necessary, and the accommodation that is available.

The most important consideration is to ascertain whether a case is incurable or curable—*e. g.* G.P. or not G.P., whether acute or chronic, suicidal or dangerous. It must be remembered, however, that a recent or acute case may be but a recurrence of a former attack, or it may exhibit the elements of incurability from the outset, and that a chronic case is sometimes subject to acute exacerbations.

It will be found that there is generally a separate block or a special ward for newly admitted cases where they are kept in bed for observation and close medical examination. These are then drafted off into other wards, when the diagnosis is complete. There are again special wards for Suicidal cases, and for General Paralytics who require watching, others for Epileptics, where the proportion of attendants

is relatively high. Old or feeble patients and dements are usually kept separate from violent patients, and those that are noisy at night, as a rule, sleep in detached single rooms. Chronic patients capable of doing a certain amount of work, and convalescents from acute attacks, are in wards where more liberty is allowed. Lastly, there is an Infirmary ward for each sex, where patients are mostly confined to bed, and detached blocks for cases of infectious disease, including Ulcerative Colitis and Phthisis.

CHAPTER IX

MELANCHOLIA

Maniacal-Depressive Insanity is the term introduced by Kraepelin; in this category may be grouped nearly half the number of cases which are admitted to our asylums. Amongst these are included the cases of Intermittent Melancholia and Mania, at all ages, in which no adequate etiology can be assigned beyond the fact of mental instability. Some recover, never to break down again, whilst others recur at increasingly shorter intervals, and a large proportion end in Secondary Dementia. To a small but special subclass belong the cases of Alternating, Circular, or Periodic insanity, in which the recurrence is regular and more intractable, although the tendency to Dementia is not so marked. Various writers use the term Melancholia for all states of depression which accompany different diseases whether associated with insanity or not. It is best, however, to restrict it to those cases of Intermittent depression which are frequently called Idiopathic. It is also a phase of Alternating Insanity which is described later.

Melancholia may be defined as a state of mental pain. The ordinary feeling of discomfort and misery, which afflicts some mortals from time to time, and which is characterised as "a fit of the blues," is a state of melancholy which does not pass the border-line of the pathological state we commonly call Melancholia. By Melancholia we mean an intense feeling of depression and misery, such as the physical condition of the patient does not warrant, and which has no proper relationship to the external circumstances of the patient.

Etiology.—Although there is as yet no convincing demonstration of the nature of the toxins in this disease, their existence can hardly be denied. Some authorities, from the

close association of dyspepsia and constipation with this disorder, consider that the toxins derive their origin from the intestinal tract, and affect the nervous centres through the circulation. It is, however, much more probable that the poisons arise from defective metabolism in the cortex itself, whereby certain products are not properly eliminated; and thus there results a paralysing effect on the cortical neurons, producing a state of inertia and mental pain. As exciting causes, the ordinary stresses of life are sufficient to develop an attack.

Fig. 20.—Acute melancholia.

Physical Signs.—The patient looks ill, and commonly loses weight. All the secretions tend to be diminished, the skin is dry, as is also the hair, which is an index of the want of general nutrition, and the nails are brittle. The temperature is subnormal. The blood becomes chlorotic. The pulse frequency is increased, and there is a tendency to high tension. The cardiac systole is diminished in force, and the hands and feet are apt to be cold. Respiration is shallow and at times lung complications ensue. The tongue is dry and furred; there is invariably dyspepsia with loss of appetite, and frequently a foul odour from the breath. An examination of the gastric juice shows an increase of hydrochloric acid, and its peptonising power is reduced. The action of the liver is sluggish, and constipation is the rule. When diarrhœa exists, it is generally associated with hardened fæcal lumps. The muscular tone of the intestines is weak, and there is a diminution of the alimentary secretions. The urine varies in quantity according to the amount of fluid imbibed, but is usually less than normal. The phosphates and urates are increased, and indoxyl is frequently present. The sexual function is in abeyance. Menstruation is scanty or absent.

The expression is one of abject misery. The forehead is wrinkled, and the corners of the mouth incline downwards. Sobbing may occur, but lachrymation is rare. The attitude of the patient is a stooping one, with some rigidity of the shoulder and hip-joints, resembling a slight double hemiplegia as suggested by Stoddart. The smaller peripheral joints exhibit restless movements in the agitated cases. The gait is usually slow and is accompanied by effort. The tone of voice frequently undergoes change, and reaction to questions is slow. The writing is similarly affected, being generally small and accomplished slowly and with difficulty. The deep reflexes are sometimes increased.

Mental Symptoms.—Sensation and Perception are normal in cases of pure Melancholia, but in chronic cases aural hallucinations are apt to occur. There should be no anæsthesia or disorientation in uncomplicated cases. Attention, both voluntary and instinctive, is defective. Memory is for the most part unimpaired. There is retardation and difficulty in the association of ideas, and the intellectual life is pervaded by painful emotions. Sorrow and sadness pursue the patient in his waking hours; and during his snatches of sleep he is disturbed by disagreeable dreams. He is plagued by morbid apprehensions, and is haunted by a feeling of inefficiency, and inability to cope with difficulties real or imaginary. There is a sense of resistance in the environment which the patient has not experienced before. His present life is scarcely bearable, and the future seems impossible. The patient is harassed by a feeling of impending evil which is at first vague and indefinable. As the disturbance of the neuronic association increases, disorder of the sequence of ideas ensues, and delusions arise as a result of this dissociation. These tend to offer some explanation of the patient's morbid state. He imagines that he has committed some unpardonable sin, that he is forsaken by God, that he has committed a crime, that he is a disreputable mortal, or that he has lost his money and ruined his family. Should he suffer from hallucinations also, these tend to accentuate his morbid ideas, and he hears a " voice " accusing him accordingly. He withdraws himself more and more from his fellow creatures. This growth of morbid egoism prevents him from taking any interest in his family or in others,

and he is apathetic to his surroundings or else he has a distinct aversion to them.

The primary instincts tend to become paralysed or perverted. There is no healthy desire for exercise or recreation. The patient loses all appetite for food, and in bad cases there is absolute refusal of nourishment. The persistent refusal of food is usually accompanied by some delusion, and occasionally by hallucinations or illusions. Thus the patient may believe that his throat is blocked up, and that accordingly he cannot swallow; or that his bowels never act, and that everything he takes decomposes within him; or that his food is poisoned, or he may state that a "voice" tells him not to eat. In some cases the organs of taste and smell are affected, The normal desire to live may likewise disappear, and the patient may attempt to make away with himself. Ideas indicating suicidal intention are frequently expressed, but the act is sometimes committed without any warning, especially in the early days of the disorder, before the patient is placed under care. Refusal of food and attempts at suicide are conditions which render every Melancholiac an anxious case. Although the self-conservative instincts are weakened, there is fortunately not infrequently a loss of will-power and lack of self-confidence, which prevent many of these patients from taking their lives.

Another symptom of extreme importance in Melancholia is insomnia. Night after night, unless the patient is treated, he is wretched and sleepless. He is haunted by depressing ideas and he reflects upon them. He paces about the room in his miserable and restless state, and perhaps obtains but one or two hours of quietude towards morning; he arises again unrefreshed, and is tormented by his feelings of utter wretchedness and misery.

Clinical Varieties.—Melancholia is said to be **Acute** or **Recent** when the onset is intense, or when it has originated within twelve months; **Chronic** when it persists, and the chances of recovery are less certain; and **Recurrent** when there have been previous attacks. The subdivisions that may be described are—

(*a*) Simple Melancholia.
(*b*) Delusional Melancholia.

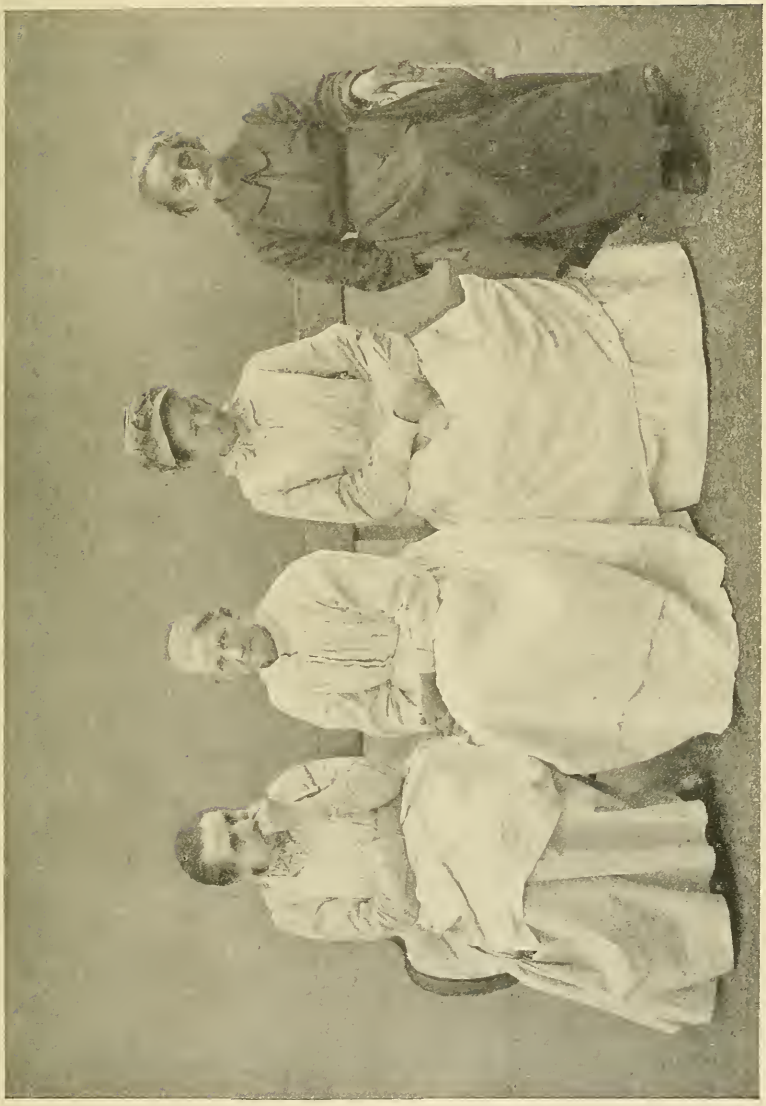


FIG. 21.—Group of chronic melancholiacs.

(*c*) Hypochondriacal Melancholia.
(*d*) Resistive Melancholia.
(*e*) Agitated Melancholia.
(*f*) Stuporous Melancholia.

Simple Melancholia consists in mental depression, which is more than a passing fit of low spirits, and is in no adequate proportion to the circumstances and bodily health of the patient. The patient is fully aware of his state and there is no intellectual flaw. He is sleepless and restless, he can only give his attention to any occupation with a sense of effort, and he is often a potential suicide.

Delusional Melancholia is characterised by the presence of delusions which have, as it were, crystallised out by dissociation, and which serve as an explanation to the patient of his depression. The delusions frequently, therefore, arise as a further state of dissolution in Simple Melancholia; the patient reproaches himself with some crime or moral offence in the past, or his ideas affect his religious convictions and he imagines he is eternally damned.

Hypochondriacal Melancholia.—This term is applied to those cases in which the delusions relate to the health and bodily organs of the patient. Some patients say that their brains have been destroyed, or that their sexual organs are ruined, resulting in impotence. The majority, however, have delusions concerning the alimentary tract, that the throat is blocked up or that the bowels are obstructed. These cases are exaggerations of those Hypochondriacs met with in general practice, and tax the patience of every practitioner. They have to be differentiated from cases of Hypochondriacal Paranoia, in which the patient attributes his ill-health to the evil machinations of others.

Resistive Melancholia.—This special term covers a good many delusional cases in which there is active resistance to whatever is done for them. Resistance is shown in feeding and dressing, or in any movements. This group has to be distinguished from the Katatonic variety of Dementia Præcox.

Agitated Melancholia.—Under this heading are included the restless Melancholiacs who pace up and down in an aimless manner, wringing their hands as a vent to their pent-up

misery. If it were not for their abject depression, the excitement that they exhibit, almost places them within the category of Mania.

Stuporous Melancholia.—This is also called *Melancholia Attonita*. The patient scarcely ever speaks or moves, but stands in a rigid condition, or sits in a bent position characteristic of a severe degree of Melancholia.

Course.—An attack of Melancholia usually begins gradually, reaching its acme during the first month; signs of improvement are noticeable in another month or two, and the patient slowly recovers in five to six months. Sudden recoveries are not to be looked for, and when they do occur, they not infrequently lead to an early relapse. As the patient improves he obtains more natural sleep, his appetite is better, the bowels move properly, the characteristic attitude disappears and he becomes more active. His countenance loses its careworn expression and the complexion becomes clear. If the patient improves physically without corresponding mental improvement, the case is probably becoming chronic.

Diagnosis.—Melancholia has to be distinguished from the following disorders: from the depressed type of General Paralysis by tremors, slurring of speech, and Argyll-Robertson pupil; in doubtful cases, lumbar puncture might be resorted to. Some cases of Dementia Præcox begin with depression, which is, however, followed by mannerisms and weak-mindedness, and "voices" are more common. In Confusional insanity, the emotional element is not so pronounced, hallucinations and sensory disturbance, including anæsthesia, are usual, and disorientation takes place. In Neurasthenia and Psychasthenia, insight is not lost, and sensations and fears prevail. The history of a fit usually points to General Paralysis or Epilepsy.

Prognosis.—This is usually favourable if the patient is promptly placed under treatment, and it is better in early than in late life. Exhaustion symptoms, as well as previous attacks, detract from a good prognosis, as does also prolongation of the existing attack for more than a year. Fully 50 % recover, but of this percentage a certain proportion recur, or alternate with a state of Mania. About 20 % of cases become chronic, and most of these in time drift into Dementia, whilst 5 % of the cases die of exhaustion, lung affections, or other intercurrent

maladies. On rare occasions it happens that a patient who has suffered from Melancholia for many years is discharged from an asylum recovered. The Maniacal-Depressive psychosis manifested by the mild depression accompanying digestive and other bodily disturbances has a most satisfactory prognosis.

Pathology.—As has been already stated, positive evidence of the existence of toxins affecting the cortex cerebri is still wanting. Defective neuronic metabolism offers the best explanation of the disease, and when advances in biochemical methods occur further light will probably be forthcoming. Craig attributes the feeling of depression as due to the excessive blood-pressure which is nearly always present. Post-mortem examination and microscopic anatomy have not revealed anything of importance, either as regards the cortical nerve cells, the cerebro-spinal fluid, or the blood; whilst the visceral changes must be regarded for the most part as secondary.

Treatment.—Rest, appropriate dieting, medicinal treatment, and fresh air, will do wonders in the majority of cases that are attended to early. Psychological conversations do some good in certain cases, but too much must not be expected from this line of treatment or from psycho-analysis, looking at the probable pathology of the disorder. The relations will already have done harm by talking to, and irritating the patient, imploring him to rouse himself from his depressed state. Such counsel usually emphasises the ideas and feelings of utter despair that already torment him. He would of course try to shake off the condition if he could. Doubtless he has been made to go about sight-seeing, to visit picture galleries or to travel, in the hope of distracting his thoughts. Experience has abundantly proved that such methods of treatment are not only of no avail, but are positively harmful, at the outset of an attack of Melancholia. To store up the patient's energy by rest is the safest measure to adopt. This is best carried out in bed, with the services of skilled mental nurses. If the patient is too restless to remain in bed, he may in some cases be managed better in a lounge chair, in his room or in the open air; but exercise must at all cost be limited. To prescribe travel for an early case of well-defined Melancholia is to hazard its recovery, whilst the risks of suicide are not to

be lost sight of. Whether the patient is best treated at home or not, depends on circumstances which are dealt with in the Chapter on General Treatment; so also is the question of certification. The visits of relations should be as infrequent as possible. The first consideration is to investigate the physical health of the patient. A record of the bodily weight must be carefully kept. The appetite and digestive functions will require close attention, and the habitual constipation must be relieved. For this purpose, Epsom salts or mineral waters in the morning should be given, with an occasional Aloin pill or dose of Cascara or other laxative at night. Enemata are frequently necessary, and in some cases abdominal massage is efficacious. A stomachic mixture is also very serviceable to some patients; any diathesis or constitutional affection must be treated on its own special lines, *e. g.* Anæmia, Gout, etc.

As to diet, the patient is probably reduced in weight, and he must be nourished so that he may show a weekly increase in weight. The tendency to insufficient secretions must be counteracted by administering food in liquid form. The usual routine is to let the patient have as much ordinary diet as his digestive organs will admit, and to give at least three pints of milk in addition. The fluid will assist the eliminatory organs in ridding the patient of toxic products. A good deal can be done by tactful nurses in getting the patient to take sufficient nourishment, but in many cases absolute refusal of food takes place. At times this may be overcome by spoon feeding, but as a rule the best plan is to have recourse to the nasal or œsophageal tube forthwith, as described elsewhere (*vide* p. 301). To help the nutrition, massage may be used. Stimulants are best withheld, unless the patient is old or in an enfeebled state. A glass of wine is, however, useful with the meals in some patients as they begin to convalesce. To prevent attempts at suicide, the patient must be kept under constant observation by night as well as by day. He should be searched, and all dangerous implements, such as knives and scissors, must be removed, or be left in the charge of nurses. Even a handkerchief, or the girdle of pyjamas, should be handed over in certain cases. The danger of precipitation from the window or over banisters must be guarded against. Keys and bolts should be removed, especially from the w.-c. A determinedly

suicidal patient should always be sent to an asylum. As the attack subsides, and the patient begins to improve, a time will come when the continuous observation may be relaxed, the responsibility for which rests with the medical attendant.

Insomnia demands the most prompt and energetic treatment, especially at the commencement of the illness. Absolute quiet must be procured, in a properly ventilated room. The bed-clothing should be appropriate and the feet warmed, if necessary by means of hot bottles. Nourishment during the night should be given if the patient is wakeful. If ordinary means fail to produce sleep, a sedative should be administered. Paraldehyde, in doses of ʒj to ʒiij, given at night-time with peppermint or quillaia produces healthy repose; but it has unfortunately a nasty odour which it is difficult to disguise. It also makes some patients disinclined to take their food. The Bromides in ʒss doses are often helpful with or without gr. x to xxx of Chloral. Veronal, Sulphonal, or Trional should be restricted to Agitated and to Senile cases. Opiates are not to be recommended as a rule, but a solution of Morphia in small doses—Liquor Morphinæ Bimeconatis—ℿxv given three times a day suits some patients admirably. During the daytime the patient should be allowed to read newspapers or light literature if so inclined, but no occupation should be forced upon him. When he begins to convalesce, he should be allowed to take exercise sparingly at first, and he should not be allowed to do any work for some months. Should, unfortunately, mental recovery not ensue with the bodily improvement, a course of Thyroid Extract should be given (*vide* p. 310) before the case be given up as chronic.

MANIA

The term Mania is now generally reserved for the excitement of the Intermittent type of Maniacal-Depressive insanity. The excitement is commonly accompanied by exaltation or a sense of well-being, which is out of harmony with the surrounding circumstances of the patient. The disorder either ends in recovery, complete or partial, or when prolonged and severe, it may terminate in Dementia. A small proportion of cases

die from exhaustion. As with Melancholia, it is also a phase or part-process of Alternating, Circular, or Periodic Insanity.

Etiology.—Most authorities agree that toxins are, at bottom, the cause of an attack of so-called Idiopathic Mania. Also that such toxins are probably produced locally, as a result of irregular metabolism in the convolutional areas. They must differ in composition or degree from the toxins of Melancholia, as their effects are entirely different. Bevan Lewis regards Mania as a further state of mental reduction than is Melancholia from the evolutionary point of view.

Hereditary influence is usually a predisposing factor, and the exciting causes are often such that should not upset a properly balanced mental constitution.

Physical Signs.—These vary according to the acuteness of the attack. The eyes, facial expression, and restlessness indicate excitement, and the general appearance of the patient is untidy. In the milder cases, there is not much bodily disorder, whilst in some cases the patient looks very ill and rapidly loses weight. As in Melancholia, the patient becomes anæmic, and there is gastro-intestinal disturbance with hyperacidity of the gastric juice. The tongue is furred, and the appetite is capricious, sometimes the patient eats voraciously and then refuses all nourishment for a time. The bowels are variable, and often constipation is present and requires attention. The skin is moist, and there is a peculiar mousy odour of the sweat secretion. Patients tend to strip themselves of clothing, especially at night. The temperature is unaffected. The urine is generally normal, but is slightly in excess. The usual menstrual flow in women is irregular—sometimes being absent, and at other times excessive. The mental excitement is usually increased during the catamenia. The pulse rate is accelerated, but there is not a proportionate increase in respiration.

The superficial reflexes are brisk and the deep reflexes are variable. In contradistinction to Melancholia, there is no rigidity but there is muscular hyperactivity. The patient is always on the move, and it is to be noted that the movements are mostly in connection with the large proximal joints. Stoddart has especially pointed this out as regards the hand-shake of the Maniac, which is frequently just a swing from the

shoulder, whereas the Melancholiac moves his hand slowly from the wrist.

Mental Symptoms.—In uncomplicated cases there is no anæsthesia, but this occurs if Exhaustion or Stupor supervenes. During the height of the attack there is not uncommonly hyperasthesia of the senses. This, to some extent,

Fig. 22.—Acute mania.

explains the desire to remove the clothing. Hearing is also hyperacute.

Perception and Orientation may be normal, but the former is generally hyperactive, and reaction is brisk. Hallucinations and illusions, when present, are due to complications. The association of ideas in Mania is always active, indeed it would seem as if the patient's thoughts are too rapid to express. There is truly a "flight of ideas" in many cases, and the acceleration of ideas is such that the connecting links in the

reasoning process are missing. Thus there occurs a state of incoherence. The ordinary paths of association are not in proper use; there is a condition of short circuiting to lower levels. The writing is large, untidy, and exhibits incoherence, similar to that of the patient's speech. He may have a certain amount of insight into his state, but the exaggerated sense of well-being, the result of internal stimulation, may be accompanied by sufficient neuronic disturbance to lead to the formation of delusions. These delusions are usually of a fleeting character. The patient imagines he is possessed of much strength or wealth, or that he is a person of distinction and of title. The concentration of energy into the muscular area does indeed give an artificial increase of power to the Maniac, and a patient has been able to execute a feat in a state of excitement which he could not perform in his normal condition. The welling-up of energy is not confined to the voluntary muscular system only, but pervades the abdominal viscera also. The incoming stimuli from the viscera lead to disordered emotions, which the patient is unable to control. He becomes passionate and violent, with little or no provocation. He laughs at one time and cries at another. He loses his higher sentiments and sense of propriety, and becomes abusive and destructive. His instincts become disordered or perverted. He tosses his food about, tears his clothing and bedding, and in bad cases loses all sense of cleanliness. The sexual desire is increased and becomes uncontrolled, so that the patient loses all ideas of modesty and becomes erotic, and may give way to fits of self-abuse. In women this is more common during menstruation. The patient's will-power, which to him is enhanced, is really weakened, so that he can give no sustained attention to any subject. Every idea tends to expend itself in immediate action. The patient becomes impulsive from failure of inhibition and loss of self-control. Any chance stimulus diverts his ideational life. Thus, examples of insane rhyming and punning are exhibited which would be impossible to the patient when well. This state of excitement and exaltation leads to boastfulness or bragging and extends itself in every available direction.

Unless controlled, the patient would spend all his money and overdraw his banking account. His social and altruistic

feelings are quite benumbed, and he disregards the admonitions of his family. He sleeps but little, wakes early in the morning, and is on the move again, with a press of activity and incessant talk. Noisy and indifferent to the feelings of others, he is a menace to the peace of the household, and becomes violent if interfered with. The memory is usually quite unaffected, and on recovery the patient may recapitulate the whole course of his disorder. After a severe Maniacal outburst, the patient is liable to an attack of Stupor. This condition, which is described later, implies a reversal of the signs and symptoms of Mania and may last some weeks before recovery ensues.

Clinical Varieties.—In Mania, the distinctions usually made, are: (*a*) **Simple;** (*b*) **Acute** or **Recent;** (*c*) **Chronic;** and (*d*) **Recurrent.** Acute Delirious Mania (or Acute Delirium), which by some authorities is included under this heading, is described by the writer separately; its symptomatology resembles more closely the Confusional and Exhaustion insanities than Maniacal-Depressive insanity.

Simple Mania.—This is a state of mild exaltation, with an exaggerated feeling of self-importance. The patient is overconfident of his powers and capabilities. He is boastful and resents all interference. He is sleepless, and believes two or three hours' sleep at night is sufficient for him. He therefore gets up early, and busies himself with other people's affairs as well as his own. He is talkative, irritable, and restless; and he is inclined to run into extravagance and excesses in all directions. He dresses himself up and makes overtures to the opposite sex, and frequently takes more alcohol than is good for him. His memory is unaffected. He is more of an exaggeration than a perversion of his normal self. The condition is mostly seen during the period of adolescence, and it is often difficult to certify the patient or place him under any form of control. It is sometimes known as *Hypomania.*

Acute Mania.—This occurs with the severest degree of excitement and loss of self-control, and the physical signs are most marked. The patient is boisterous, incoherent, and noisy, and he sometimes gives vent to passing delusions. Destructiveness and impulsiveness are frequent, and indeed all the usual signs and symptoms already mentioned are present.

Fig. 23.—Chronic mania.

Chronic Mania.—This is a condition that supervenes on those acute cases which, after the lapse of a year, do not recover. The patient often has a *Fixed Delusion* and the ordinary signs of Mania in a reduced degree. If several delusions are present, they are not systematised, as in Paranoia. In time the memory becomes affected and the process tends to Secondary Dementia, to which it may be regarded as a halfway house. In some cases the excitement is increased in a rhythmic manner until the patient becomes more and more weak-minded, although occasionally improvement occurs. The majority of cases, however, are only fit for institution care.

Recurrent Mania.—This may be Simple, or Acute, resembling the Periodic type, but the attacks occur at more irregular intervals, and the patient generally becomes demented.

Course.—An attack of Acute Mania frequently lasts about six months; after twelve months it may be regarded as becoming chronic. Recovery occurs in most cases and it may occasionally be delayed until the second year. A few cases die of exhaustion or of some intercurrent affection, whilst the remainder become chronic and frequently end in Dementia. Some so-called recoveries are only partial cures, and a condition of depression or weak-mindedness with lack of self-reliance results, or else a fixed delusion remains.

Diagnosis.—This should be made from Acute Delirium, which is a grave disorder, with a rise of temperature, and it is almost invariably fatal. The Delirium from Alcohol and other conditions must also be excluded. The excitement in Confusional insanity occurs with hallucinations and memory defects, and the patient becomes disorientated. General Paralysis must be distinguished by a careful examination for the motor signs of that disease. The excitement of Epilepsy and Hysteria must also be differentiated. Paranoia and Dementia Præcox may be excluded by the gradual onset, together with persecutory delusions as well as exaltation in the former, and weak-mindedness and mannerisms accompanying the latter.

Prognosis.—This is decidedly good for first attacks, and quite 60 % recover. Repeated relapses point to the liability of chronicity, and the majority terminate in Dementia. Per-

sistent dirty habits render the outlook serious, as does also the complication of auditory hallucinations. As to the prediction of future recurrence, there are at present no available data, but a strong family history of insanity predisposes to a recurrence. It may, however, be guarded against by judicious management, which may be necessary for many years in some cases.

Pathology.—Little of a positive nature can be asserted, but the theory of defective metabolism of the cortex of the brain offers the best explanation. Toxins are probably produced *in situ* which cannot be eliminated readily, although it would seem they do disappear in some cases as suddenly as they appear. Histologically but little abnormal is seen in the nerve cells in recent cases. The circulation is probably only affected secondarily. Craig has pointed out that there is a tendency to low blood-pressure in many cases. What toxic relationship Mania bears to Melancholia is at present purely conjectural.

Treatment.—Every case of Acute Mania is most satisfactorily treated in an institution, unless the means are ample for special single care. Even then, it is usually best to remove the patient from home surroundings, and certification will have to be resorted to. The noise and destructiveness which commonly accompany Mania, satisfy the relations that some change must be made, and the physician has a freer hand than he has in cases of Melancholia. The lay mind is willing to accept the fact that a patient is insane when he strips himself of clothing and is smashing up the furniture or threatening violence. It is, however, frequently difficult to act in the premonitory stage, when the patient still has some self-control, but is restless and sleepless and is to some extent amenable to reason. If there is a history of a previous attack, it is always best to advise removal forthwith, as the best chance of recovery. Rest, rather than exercise, should be the rule for the proper treatment of the patient. Trained mental nurses must be engaged, who will carry out the exact orders of the medical man in charge. Some patients can, with tact, be managed in bed, and external stimuli should be removed as far as possible and the room be darkened. A tepid bath, lasting from half to one hour each morning or even longer in some

cases, is efficacious in reducing excitement, and the patient will then not infrequently return to bed quietly. When bed treatment cannot be satisfactorily carried out, rest can still be to some extent enforced by the use of lounge chairs in a garden; even walking exercise should be discouraged as much as possible. The idea of allowing a Maniacal patient to exhaust his energies by violent exercise should be seriously deprecated. After the acute symptoms have subsided, and the patient shows improvement, a certain amount of latitude as regards exercise may be safely permitted. The excitement may be so dangerous at times that the patient is best off in a specially padded room. This often obviates any attempts at struggling with nurses, and enables the patient to obtain rest. Suicidal notions are uncommon, but a patient suffering from Acute Mania will impulsively or accidentally injure himself unless properly looked after. Therefore, it is best, in a private house, to have a room on the ground floor, and to have most, if not all of the furniture moved therefrom. Especially must all dangerous weapons be removed, so that risks be minimised as far as possible. Next to rest, the most important point is to see that the patient is properly nourished. Some patients overload their stomachs at one meal, and refuse everything at another. In the acute state, fluid diet is generally best. Two pints of egg-and-milk in the form of custard three or four times a day suits most cases admirably. The food may be varied occasionally with a little soup thickened with vermicelli. Stimulants should be for the most part prohibited unless the pulse flags. Absolute refusal of food, which occurs sometimes, must be treated by the use of the nasal or œsophageal tube, as is mentioned in the Chapter on General Treatment. A chart should be kept showing the amount of sleep. If a patient sleeps less than six hours in forty-eight in spite of nourishment, some sedative or hypnotic should be administered. For this purpose Sulphonal in gr. xx to xxx doses is largely given. It must be remembered that its action is somewhat delayed and is also cumulative. During its administration the bowels should be kept freely open. Trional in gr. xx doses has a more immediate effect, but does not last so long. In an emergency, Hyoscine Hydrobromate gr. $\frac{1}{100}$ to gr. $\frac{1}{75}$, administered subcutaneously, has a

wonderfully calming influence, which may in some cases be continued by giving ℥ss to ℥j doses of Potassium Bromide every four hours. The state of the bowels requires careful regulation, as excitement is generally increased with any tendency to constipation. The evacuation of the bladder at regular intervals should receive attention.

As the patient convalesces, tonics may be indicated, and he may be allowed to take part in occupations and amusements. Cases of post-maniacal Stupor require energetic treatment by prompt and stimulating nourishment.

ALTERNATING INSANITY

This is the Periodic or Circular form of Maniacal-Depressive insanity, which is much less common than Mania or Melancholia of the Intermittent type. It is more intractable, and sometimes lasts in its different phases throughout the life of the patient when once fully established, although it does not as a rule tend so much to Dementia. It is mostly seen in the cultured classes, and where the tendency to mental instability is marked. It is frequently also called *Folie Circulaire.* The intervals between the attacks are of short duration, and the course of the attacks can almost with certainty be predicted. The most typical form is an attack of Mania, which is immediately followed by one of Melancholia, and then by a normal period in a regular cycle (Fig. 24). In some cases the order is Melancholia, Mania, Normal State; or the Normal State may intervene between each phase of Melancholia and Mania; or the Melancholia and Mania may run consecutively without any normal period at all. In other cases there is a regular sequence of either Mania and the Normal State, or of Melancholia and the Normal State, and finally there are a few cases which present an irregular type of sequence. But whatever intervals and sequence occur, the attacks are sure to be repeated—and only rarely does the patient recover absolutely—or to result in a chronic state of Mania or Melancholia.

The exaltation in the Maniacal phase comes and goes gradually, as a rule, and the symptoms and signs of ordinary

Intermittent Mania are exhibited in varying degree, but on the whole they resemble the simple type of the disorder. The Melancholic stage also resembles an attack of Melancholia, with its depression and general attitude, and sometimes the patient is Stuporous during part of the process. Nothing definite is known as to the etiology and pathology of the condition.

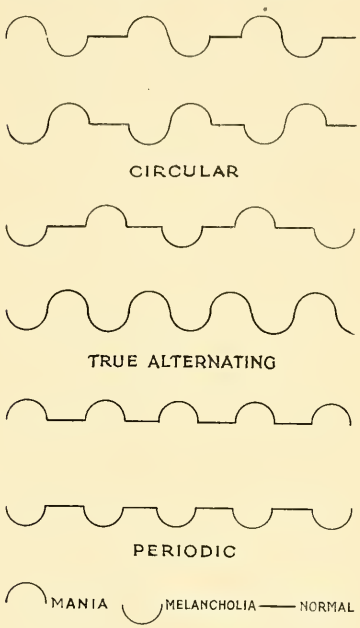


Fig. 24.
Diagram of alternating insanity.

Treatment.—Although a certain amount of rhythm or periodicity is common in the mental constitution of many individuals who may be regarded as normal, it reaches its climax in this disorder. A patient will pass through days or weeks of excitement, in which the appropriate treatment for Mania is necessary, and an attack of depression will follow, in which the therapeutic measures advocated in Melancholia are called for. There seems nothing to break the sequence, and each phase is a faithful replica of the corresponding phase that has preceded it. In rare cases the cycles are very short, viz. there are alternate days of excitement and depression, or apathy. Many patients are able to live out of asylum control in the charge of suitable nurses; but for some it is advisable, when the attack of excitement is a long one, to seek institution care, and leave of absence can be obtained during the quiescent or lucid intervals for their return home.

CHAPTER X

ACUTE CONFUSIONAL INSANITY

Confusional Insanity is a disorder in which, unlike the Maniacal-Depressive group where emotional disturbance is the predominant factor, the confusional element is most marked, and it is accompanied by various sensory aberrations. There is also, as a rule, more evidence of some definite toxic or exhausting process in the etiology, and the physical signs are more pronounced. The hereditary stock is generally unsound, although it may only be slightly tainted with insanity. Acute Confusional insanity is the commonest clinical type; Delirium results when the mental disturbance is temporary and is accompanied by muttering and marked sensory aberration —in a distinctive form it is described as Acute Delirium; Stupor is the condition when confusion is such as to leave the mind almost a blank.

When certain individuals become abnormally fatigued by muscular or intellectual pursuits carried to excess, their nervous systems are such that they are peculiarly susceptible to alcohol and other toxic influences, as well as to the effects of ordinary stresses. In such cases, unless a state of chronic Neurasthenia supervenes, Acute Confusional or Exhaustion insanity is most likely to be produced. It occurs usually in early adult life, and affects both sexes equally. Leaving out cases associated with Alcohol, the Confusional or Intoxication psychoses are certainly less common than the Maniacal-Depressive group.

Etiology.—There is nearly always a history of neurotic inheritance, and sometimes of mental instability. The patient's nervous energy, which is apt to be run down too easily, has usually received some further check to recuperation, by an increase of mental or physical exertion, accompanied often by anxiety and worry. The condition sometimes arises after

Operations, and then possibly the Anæsthetic plays a rôle in the causation. The debilitating effects of Influenza frequently give rise to this form of insanity, but it also occurs after Typhoid and other fevers. Profound Anæmia is liable to cause this affection in certain individuals, and when insanity occurs after Childbirth it usually conforms to this type. It is a special feature of the insanity of Alcohol, and of drug states, including Lead, also of Cerebral Arteriopathic disease, Syphilitic or otherwise.

Physical Signs.—The patient is thin and badly nourished, he looks debilitated, and the blood is impoverished. The skin has an earthy hue, is clammy, and it often has a peculiar odour. The pulse is small, frequent, and of low tension; the heart sounds are weak. The temperature is subnormal. The digestion is deranged and constipation is the rule. The urine is high coloured. In women, the menses are irregular. The muscular system exhibits loss of tone, and tremors are not infrequent. The knee-jerks are increased. The pupils are dilated.

Mental Symptoms.—The patient shows great restlessness and is unable to obtain proper sleep at night. Sometimes the insomnia is absolute, and it requires immediate attention. The special senses at first are in a state of hyperactivity. Anæsthesia has been noted at the extremities of both arms and legs. In advanced cases the patient's perceptive powers are paralysed, so that he does not recognize objects (imperception) and mistakes the identity of his relations. Short of this, confusion of ideas is marked, and there is retardation in the flow of ideas. Memory for existing events is quite disordered. The patient is in a bewildered state, owing to functional dissociation, and either does not appreciate the nature of questions or gives wrong answers. Fleeting delusions occur. At times the patient may be elated, at other times depressed, but the emotional sphere, for the most part, is in a negative state. The patient is unable to judge of his surroundings, and shows no proper appreciation of time or place (disorientation). Hallucinations are always present and are characteristic of the disorder, so that some authors have called it "Hallucinatory insanity." Patients see "visions" or hear "voices," and the other senses are also commonly involved. He sees specks

FIG. 25.—Acute Confusional insanity.

in his food, which he says smells and tastes evil, so that frequently he refuses to eat voluntarily, and has to be forcibly fed. In a severe case the patient is wet and dirty in his habits, and gives way to masturbation. He moves about aimlessly, he is often resistive, and he becomes excited and incoherent. The patient remains in an acute state for some months, and then gradually improves, sleeping better at night, and taking more notice of his surroundings. To him his illness has seemed like a terrifying dream, the details of which are blurred in his memory. Occasionally there is a relapse, and sometimes several attacks occur during the lifetime of an individual, but this is rare.

Varieties.—According as to whether the disorder is accompanied by depression or exaltation, authors have made a distinction into : (1) a **Depressed** form and (2) an **Exalted** form. There is also (3) a **Katatonic** form, in which the patient is Stuporous or Mute and the condition closely resembles a case of Dementia Præcox.

Diagnosis.—It is distinguished from ordinary Mania or Melancholia (Maniacal-Depressive insanity), by the absence of pronounced emotional disorder, and the presence of marked confusion with hallucinations and other sensory disturbances. Dementia Præcox generally develops in an insidious manner, and until the pronounced symptoms of mannerisms, negativism, etc., appear, it may be impossible to differentiate it from the Katatonic variety of Confusional insanity.

Prognosis.—About 80% of cases recover in six to twelve months. The remainder become chronic or demented, except a few that die from profound exhaustion or from some complication. As has been mentioned, some patients relapse when improvement seems to be established, and therefore supervision and care are needed until recovery is certain. The future of such cases should be regulated, to guard against the possibility of recurrence.

Pathology.—The post-mortem changes reveal a congested state of the pia-arachnoid. Histologically the cortical nerve cells may show evidence of chromatolysis, but nothing pathognomonic has so far been discovered. The blood is in a chlorotic state, and it is suggested that the condition is brought about by morbid metabolic processes interfering with the nutrition

of the nerve cells, whereby katabolism is in excess of repair. In cases associated with Alcoholism, an acute attack is often superimposed on a chronic condition betokening a degree of Dementia, with the usual cortical characteristics which are mentioned later.

Treatment.—As the disorder is largely due to exhaustion or pathological fatigue, and is, in some cases, produced by Alcohol and other toxins, the treatment must be directed accordingly. Absolute rest in bed should be enjoined, with the assistance of skilled nurses. Unless the means are ample, the patient will have the best chance of recovery in an institution. The bowels require regulation by laxatives and saline draughts. The diet during the acute stage must be of a fluid nature, and on no account should refusal of food be allowed to continue, the tube being resorted to if necessary. Egg and milk, one or two pints, three or four times a day, with the addition of cream, forms the best nourishment. If indigestion or sickness ensues, a little peptonising agent should be added. It is usual also to give a basin of beef-tea or soup once or twice a day with a little bread or toast softened therein, if the patient will take solid food. Stimulants are best withheld, unless the patient becomes collapsed, in which case, brandy or champagne should be administered, and it may be necessary to give intravenous saline injections in some cases. If the insomnia does not yield to natural means, a hypnotic may be necessary in the form of Paraldehyde ℥j to ℥ij in the food—or in a little syrup, peppermint water, or quillaia; or Amylene Hydrate ℥j to ℥ij can be given, which suits Exhaustion cases better than the Sulphonal group or the Opiates. As the patient improves, Iron may be given to restore the impoverished condition of the blood, and the patient should gradually be placed on solid diet. Exercise must only be allowed in the strictest moderation. The visits of relatives should from the beginning be restricted as much as possible, and all excitement be avoided for weeks after recovery, to ward off all chance of relapse.

ACUTE DELIRIUM

Ordinary Delirium is, for the most part, due to toxins and is frequently met with as a complication of many physical

disorders, such as Pneumonia, Septicæmia, Enteric Fever, etc., especially when associated with a continuous high temperature. It is not unusual in cases even of slight pyrexia in young people with a neurotic temperament. It occurs in starvation and profound nervous prostration, and in certain special toxic or drug states—such as those produced by Belladonna and Cannabis Indica. These are described, together with Delirium Tremens, in the Chapter on Alcohol and Insanity. Delirium also results from extreme confusion, which is sometimes met with in Epilepsy, General Paralysis, and Dementia Præcox.

Acute Delirium, or Acute Delirious Mania as the disorder is also known, is regarded by some authorities as an exaggerated degree of Acute Mania (Maniacal-Depressive insanity), and by others, as an extreme form of Acute Confusional insanity, but it is best described as a distinct affection. It is accompanied by symptoms of extreme exhaustion, and it frequently ends fatally in a few weeks, and sometimes even in a few days. To this may appropriately be applied the term "Brain Fever" which is used by the laity to include a number of different mental disorders. In Germany it is known also as Collapse Delirium. It was formerly called Bell's Disease, and is happily a somewhat rare affection, and when it occurs it does so in the upper rather than in the lower classes of society.

Etiology.—Overwork, physical and mental stress are the common antecedents in the history of this disorder. There is usually some hereditary taint in the family. No definite toxin has been discovered, but various organisms have been described in the blood and cerebro-spinal fluid, and also in the brain tissue of patients who have died from this disease.

Physical Signs.—The patient becomes anæmic, has a sallow complexion, and soon develops a cachectic appearance. The pulse is rapid—120 to 150, and the heart-beat is lacking in force. There is always a rise in temperature which makes this disorder distinctive—about 100° F. to 102° F. The appetite is lost, all food is commonly refused, and he usually has to be tube-fed. The tongue is dry, and coated with a dirty brown fur, and sordes are present on the lips. The bowels may be constipated, and when they act, the patient frequently pays no heed. The urine is also likely to dribble away.

Mental Symptoms.—After a prodromal period of a few

days, in which the patient shows inability to attend to his work, and is restless and depressed, with sleepless nights, he loses his self-control and becomes excited and resistive. His special senses and perception are at first hyperacute, then they become further disordered, and are finally dulled. Thought and memory are deranged, and delusions occur with or without hallucinations. As the morbid process increases, the patient becomes completely incoherent, and he scarcely recognizes his friends. He becomes quite disorientated both as to time and place. He shouts and uses unintelligible language. The raving and restlessness continue by day and by night, without any intermission, until the patient is completely exhausted. He is always on the move and never seems to sleep.

Diagnosis.—This is usually sufficiently clear, owing to the acuteness of the symptoms, together with the rise of temperature, and the early advent of prostration which distinguishes it from other mental disorders. The bodily organs should be examined to exclude the possibility of Delirium from pneumonia and other diseases.

Prognosis.—At least 90% of cases end fatally, dying from exhaustion and heart failure in the course of two to three weeks. Most of the cases that survive become weak-minded, and have to live under supervision.

Pathology.—The post-mortem examinations reveal extreme congestion of the brain and meninges, and often minute hæmorhages are to be found, but it is surprising that more changes are not to be discovered. Cocci and bacilli have been described by Italian observers, but confirmation is needed.

Treatment.—The patient must be put to bed and induced to take as much stimulating nourishment as possible. Eggs, milk, and beef essences should be given; and, as the patient usually refuses food, the tube must be used. To help to produce sleep the room should be darkened, and absolute quietude enjoined. Alcoholic stimulants are indicated in most cases. Paraldehyde in ℥j to ℥iij doses should be given, or some other non-depressant hypnotic. The state of the bowels must be regulated, and the patient carefully nursed. Sometimes a spurious improvement occurs, followed by a relapse. Chloroform has been given to anæsthetise the patient to sleep, with satisfactory results in a few cases.

STUPOR

The condition, here described, is that of a temporary suspension of the mental functions, which is closely allied to, and often arises from, Acute Confusional or Exhaustion insanity. It is pre-eminently due to a drain on the highest centres of the nervous system, and when the proper energy of these centres is restored under treatment, return of the normal mental functions results. Such depletion of nervous energy of the brain may be primarily due to some profound mental shock or delusion, or it may be secondarily caused by prolonged excitement and general debility from sexual excess or masturbation. Kraepelin regards Stupor chiefly as a phase of Maniacal-Depressive insanity, because it does sometimes alternate with, or follow upon, Mania and Melancholia, but it must be remembered that the condition is also seen in General Paralysis, Epilepsy, and other insanities. The older authors used the term Acute Dementia for these cases, but by common consent it has become customary to reserve the term Dementia for states exhibiting an absence of mental functions due to organic destruction of nerve cells, and without hope of recovery. Stupor is not common, and as in Somnambulism or Trance, to which it is closely allied, there are all degrees of loss of consciousness.

Etiology.—In the majority of cases, masturbation or sexual excess is the chief factor in causation. It therefore occurs, for the most part, in adolescent patients. It does, however, also arise from extreme mental or physical exhaustion due to other stresses, and especially from sudden fright or shock, or from a deep-seated delusion.

Physical Signs.—As a rule the patients are in poor health, they are anæmic and badly nourished. This is more marked in the secondary cases than in those due to sudden emotional stress. The temperature is inclined to be subnormal. The hair becomes dry and brittle. The hands and feet are cold, and are frequently red from congestion, or even blue and œdematous. The blood tension is reduced, and the pulse is variable. Respiration is slow and shallow. The urine is deficient and high-coloured. In females the menses are absent. The tongue becomes furred, saliva often dribbles from the mouth; constipation is frequent, probably from lack of sufficient alimentary

secretion, as well as from deficient peristalsis. The pupils are unduly dilated. The superficial reflexes are diminished, and the knee-jerks are increased. Stoddart has pointed out that peripheral anæsthesia is present. In marked cases of Anergic Stupor the patient's limbs are motionless, and fall in any position they are placed in by gravity; in other cases they adopt the attitudes artificially induced by the medical attendant (*Catalepsy or flexibilitas cerea*); or the patients with Delusional Stupor become resistive and rigid, and often refuse nourishment, thus resembling Katatonia (Dementia Præcox).

Mental Symptoms.—These are for the most part negative. The patient's face loses its normal expression and he gazes vacantly into space. He is generally absolutely mute, and takes no heed of his surroundings. Unless he is in bed, he stands or sits in the same pose all day. He takes no food, even if it is placed in front of him, and would starve if he were not fed. Most patients will eat and drink when spoon-fed. Cases that are resistive require the tube. The majority of them take no notice of the calls of nature, whilst others retire for the purpose at the proper time. Particularly in the Anergic variety are thought and perception in abeyance, and there is a complete absence of emotion. The memory of these patients is usually gone whilst the Stupor lasts, and on recovery no details of the illness can be recollected. In the resistive cases, however, patients have some perception and memory, but their actions are, for the time, paralysed by some dominating delusion. Very occasionally, during an attack of Stupor, impulses may overcome the inaction, resulting in violence or self-destruction. Nevertheless, most cases of Stupor cannot be regarded as actively suicidal. How much Stuporous patients really sleep, it is difficult to say, as they remain motionless in bed, and often with eyes closed.

Varieties.—Stupor may best be divided into (1) **Primary** and (2) **Secondary.**

Primary Stupor, which is usually known as *Anergic Stupor,* may develop gradually, or more generally suddenly. In like manner may the attack end, in the course of a few months, though it may be prolonged even to two or three years. Recurrence is sometimes a feature, or it may occasionally adopt a Periodic form alternating with either Mania or Melancholia.

Secondary Stupor is that variety which follows on an Acute Melancholic state, accompanied by some profound delusion—*Delusional* or *Resistive Stupor,* or it may be the result of Acute Mania, on the road to recovery. It may also be that induced by the excitement of General Paralysis, or of Epilepsy. In Dementia Præcox it is called Katatonic Stupor (*vide* p. 158).

Diagnosis.—Anergic Stupor can be diagnosed by the extreme lack of tone in the muscles (*hypotonia*), as well as by the negation of mental symptoms. The chief condition likely to be confounded with Stupor, is Dementia supervening on an acute attack of insanity. The history will therefore be a guide. It must, however, be mentioned that a small number of cases of Stupor do not recover, and drift into a state of Dementia after a few years. Reaction to Thyroid Extract sometimes differentiates Stupor from Dementia. Some cases of profound Idiocy resemble those of Stupor. The history will again clear up the diagnosis. The coma of cerebral tumours and of other conditions has also been mistaken for Stupor. It is, therefore, always necessary to examine carefully for the physical signs of organic cerebral mischief, bearing in mind the possibility of General Paralysis.

Prognosis.—In Anergic Stupor this is most favourable. The majority recover, sometimes passing through an acute attack of excitement or depression before they are well. The outlook for the Resistive Delusional cases is not so good; some end fatally from lung complications, others become chronic, whilst some partially recover after a long period of years.

Pathology.—This is at present purely speculative, and the condition probably is due to an extreme form of morbid cyto-metabolism producing auto-intoxication. No definite changes have been discovered *post mortem* or by histological methods.

Treatment.—This consists in careful nursing, and in a superabundance of nourishing diet. The Anergic cases usually allow themselves to be fed with a spoon or a feeding cup. Milk, four to six pints a day, with eggs, should be the staple diet, together with a basin of soup in the middle of the day. Stimulants as a rule do no good. Resistive cases may require feeding with the tube, and should on no account be allowed to abstain from food for any length of time.

Hypnotics are not indicated. An occasional tonic of Iron and Nux Vomica is helpful, especially when the patient shows signs of returning mental power. A system of rest is better than making the patient take exercise, although it is advisable for him to spend part of the day in the open air. It is of no use coercing the patient, in the hope of trying to rouse his mental activities. Tepid baths, and a certain amount of massage, morning and evening, can be employed with advantage to assist assimilation or to improve the circulation. Constipation and retention of urine require attention. If the patient remains in the same state for a period of six months, it is well to try a week's course of Thyroid Extract. Not that recovery is to be claimed as directly due to this treatment, but it is judicious to cause a little artificial excitement at regulated periods in the hope of warding off Dementia. The method of administration is described in the Chapter on General Treatment (*vide* p. 310). Patients should be regularly weighed once a week and should not be left alone, on account of the possibility of impulses to suicide or violence.

CHAPTER XI

PARANOIA (SYSTEMATISED DELUSIONAL INSANITY)

This is a chronic incurable disorder, which must be regarded as a constitutional mental distortion rather than a disease. It cannot be said to be congenital, although some cases have shown traces of mental peculiarity from childhood. It would seem as if the lines of evolution proceeded in a normal manner until maturity, and that between the ages of 30 and 40 a certain degeneration in the association neurons occurred, whereby the patient was rendered abnormally sensitive to certain impressions, coupled with a morbid development of the egoistic faculties. The patient reacts abnormally to his environment owing to a chronic perversion of his feelings, the result of which is that he lives continuously in a deluded state. The older writers used the term *Monomania* for this disorder, as the patient can frequently discourse rationally on ordinary topics outside his circumscribed sphere of insanity, but it has become usual to use the term Paranoia (*παρά*, beyond; *νοέω* reason) for this affection by modern authors. The main feature of the disorder is that the patient possesses delusions which are systematised; that is to say, every little detail in the environment is closely entwined within the fabric of the patient's morbid imagination. He thus has an erroneous explanation of everything that concerns himself, but his remarks on other matters may show no want of normal judgment. The condition, when once established, is of a chronic nature, and although the patient's mental life becomes entirely narrowed, there is usually little or no failure of memory, and but slight tendency to Dementia. Percy Smith and others have raised the point as to whether the disorder is primarily intellectual or emotional; some authorities maintain that the ideational life is first affected, as it is indeed more obvious in the later

stages; but the majority of cases appear to develop delusions on a groundwork of exaggerated egoism, due to a chronic exaltation of the feelings resulting in a changed personality.

Etiology.—In about 50% of cases there is a family history of insanity. Rarely is it possible to say when the disorder really commences, for, as a rule, it is a gradual evolution of an abnormal character. The patient has usually been regarded as suspicious, inclined to solitude, and as being inordinately conceited and sometimes shy or jealous. It is slightly more common in the male sex, and the majority of cases are unmarried. It reaches its full development usually between 40 and 50.

Physical Signs.—Stigmata of degeneracy are to be noticed in some cases, such as an abnormally shaped head, irregular ears, or an arched palate. When first placed under care, the patient looks ill, because he has probably passed through an anxious period of insomnia owing to his delusions. He has also usually lost weight owing to insufficiency of food.

Mental Symptoms.—An element of suspicion and persecution colours the whole mental life of the patient. There is a want of healthy reaction to the environment. He does not consider he is treated with the courtesy that is due to him, and sees some hidden underhand meaning in the ordinary incidents of life. His sense of self-importance appears to have outgrown the dimensions his fellow creatures have meted out to him; he therefore harbours grievances and shuns the society of others. Many individuals pass their whole lives in this condition, and yet are able to follow their occupations—*Resigned Paranoiacs*. They are looked upon as cranks that are best not interfered with. Others of a more retaliatory disposition and with a basis of strong individuality, become possessed of delusions which dominate their actions. For a while they are able to hold themselves in check, until some action brings them into trouble. The Paranoiac is apt to fix his annoyances on some particular person, and he may write letters molesting him; or he accuses him of insulting him, or of being the author of his imaginary persecution, and he demands redress. As a result of solitude and morbid introspection, the association currents become further disturbed. The sensory centres and organs are hypersensitive, and are prone to become active from within by a system of quasi back-working; the ordinary

impressions from the external world thus become misinterpreted, and illusions only frequently are the consequence. Sooner or later hallucinations of the senses are apt to develop. The patient misconstrues the words and actions of casual passers-by, and when communing alone he hears the telephonic "voice" of his accuser. All the special senses may be involved. At first, perhaps only suspicious about his food, he rapidly becomes convinced he is being poisoned, and straightway begins to starve himself. He not infrequently imagines he smells foul odours in his room, which he says are pumped up through his chimney, or that vermin crawl about him all night, or that his sexual organs are tampered with in his sleep. Many explain their sensations as due to mesmerism, electricity, magnetism, or X-rays which are played upon them by their persecutors. Sometimes a patient suspects an organised body of men of forming a conspiracy against him, such as the Government, the Freemasons, or a Religious Sect. He finds references to himself in newspapers and books—*ideas of reference, or symbolism*, and annoying innuendoes appear to him everywhere. Many patients complain that their thoughts are read and are translated into language. The ordinary events of their past lives are worked up to fit into the system of their delusions. Sometimes the delusions are of an amorous or jealous nature, and patients persecute ladies with their attentions. A certain proportion of Paranoiacs are sexual inverts and they sometimes dress up in the garb of the opposite sex. Some have delusions regarding their health; they imagine their strength has been sapped by some person and accordingly they are always consulting doctors and quacks. Whatever the nature of the persecution may be, it is nearly always associated with, and sometimes almost replaced by, delusions of grandeur. A frequent statement by a Paranoiac is that he is of royal descent or that he is a prophet. At first vague in character, the delusions become well-defined and organised into a regular system, giving an insane theory of the incidents of his life. When the case has gone thus far, it is high time that the patient should be certified and placed under care, both in his own interest and especially in that of the general public. Very frequently he has secreted some weapon, such as a revolver, to be used when occasion arises, and he must therefore be

regarded as a dangerous member of society. When at first placed under restraint, he is a difficult case to manage, and invariably he becomes worse until he can adapt himself to the new routine of life. Paranoiacs are prolific letter-writers, and they never seem to tire in sending off their communications to various authorities retailing their grievances. In tone, some of these betoken incoherence, but this is generally limited to the circumscribed area of their delusions, and, as has already been mentioned, it is rarely that Dementia or memory defects supervene.

Varieties.—Clouston, following the older authorities, uses the term *Monomania* for these cases, and subdivides them into : (*a*) Monomania of grandeur and pride ; (*b*) Monomania of suspicion ; and (*c*) Monomania of unseen agency (mesmerism, mysticism, telepathy, electricity, etc.) : all of them, in variable degrees, becoming the victims of ideas of persecution. This subdivision does not cover all the cases, and the following classification of Paranoia, based on that elaborated by Stoddart, will be found useful by the student :—

A.—Ego-centrics (Paranoia proper) or cases in which the personality of the patient is most affected and the delusions are systematised.

(1) *Exalted Paranoia*—where delusions of exaltation are uppermost.
(2) *Persecutory Paranoia*—in which persecution and suspicion are most marked.
(3) *Querulant Paranoia*—the patient's essential nature is retaliatory, and his delusions render him litigious and hostile.
(4) *Religious Paranoia*—this is usually accompanied by obvious aural hallucinations, and the patient believes himself in direct communication with God.
(5) *Amorous Paranoia*—the patient pursues his advances to some person of the opposite sex, being under the delusion that such person is in love with him or her. Closely allied are adolescent cases that disown their parents owing to delusions.
(6) *Hypochondriacal Paranoia*—which is closely allied to Hypochondriacal Melancholia, but differs from it

inasmuch as there is always an element of persecution present. The patient imagines he is impotent and that his sexual or other organs have been ruined or that his general health has been sapped, and that he is dying.

B.—Eccentrics, sometimes called *Mattoids*. These form a large class differing in variable degree from the normal. They include cranks, faddists and narrow-minded individuals, who are on the border-line of insanity; they rarely need to be placed under care, although they are somewhat of a nuisance to the community. Some authorities indeed consider that from this class are begotten the Christian Scientists, Vegetarians, Anti-vivisectionists, and other anti-persons. Many of them can hardly be regarded as of high mental calibre, although their disregard of conventional ideas is not in itself evidence of any disorder of mind.

Diagnosis.—The insidious and gradual onset of the disorder, together with the tendency to organisation of the delusions into a regular system, is characteristic of Paranoia. A fixed delusion as a sequela of an attack of Intermittent insanity can be distinguished by the history, and also by the absence of a definite vein of persecution. Dementia Paranoides, *i. e.* the Paranoidal form of Dementia Præcox, resembles Paranoia; but is to be marked off by the development of mannerisms, weak-mindedness, loss of memory and greater liability to hallucinations. Alcoholic pseudo-Paranoia is sometimes accompanied by delusions of persecution; the history and general bodily condition will indicate the differentiation. General Paralysis must be excluded by a careful examination of physical signs.

Prognosis.—As the disorder is the result of a morbid evolution, no hope of permanent recovery can be entertained. It is true that now and then remissions occur in the early stages, and patients are discharged from institutions; but they invariably have to return in the course of a few months, and finally have to spend their lives under supervision. Some cases are suicidal and have to be watched.

It speaks well for asylum administration that Paranoiacs frequently live comparatively happy lives, notwithstanding certain restrictions that are inevitable for their welfare and the safety of others.

Pathology.—Alteration in convolutional pattern has been noted in some cases, but otherwise nothing definite is known, and the brain frequently presents a normal appearance. The special senses of Paranoiacs during life are always hyperactive or perverted, but no trace of disorder can be found *post mortem*. An ingrained morbid sensitiveness seems to be at the root of the malady, leading to the development of systematised delusions as the patient passes through life.

Treatment.—The medical attendant is frequently only consulted when some overt act has been committed, bringing the mental state of the patient into question. During the development of the disorder, many patients are able to conceal their delusions from their relations. Sedatives and other medicinal measures do but little good, unless the patient is removed from home surroundings. Although it is unusual to advocate travel in early cases of insanity, it does sometimes seem to serve to stave off, if not to arrest, the development of Paranoia in some instances. These cases, must, however, be selected with due caution, and the patient be sent in the care of a medical attendant, companion, or nurse. When the disease is fully established and the delusions are systematised, so that the patient cannot follow his occupation, the proper course is to certify the patient and to send him to an institution. The student should bear in mind that nearly every pronounced Paranoiac is a potential homicide, and that he is sometimes suicidal also.

Communicated Insanity.—It cannot be said that insanity is in any sense contagious, otherwise those who have charge of the insane would break down oftener than they do. It is true that care is taken to obtain a staff of mentally well-balanced individuals, but occasionally a weak-minded nurse manages to join the staff, and becomes unhinged by the development of some delusion. It has occasionally happened that a nurse, having charge of a persecutory Paranoiac, has become the victim of delusions for a while. Two members of a family may become insane at almost the same time without the one having any effect on the other. The term communicated insanity, which is also known as *folie à deux*, or induced insanity, usually applies to cases of Paranoia, where the delusions of the active agent have been passed on to another person by imitation or suggestion. The second person is nearly always a blood relation, has similar mental constitution, and is usually of the female sex.

CHAPTER XII

IDIOCY, AND IMBECILITY

Amentia, Mental Deficiency, or Arrested Mental Development, differs from other varieties of insanity in being a failure of evolution rather than a dissolution of existing mental functions. It exists in all degrees from mere simple mental dullness and backwardness to congenital feeble-mindedness, moral degeneracy, imbecility, and idiocy.

Idiots are defined as persons so deeply defective in mind from birth, or from an early age, as to be unable to guard themselves against common physical dangers.

Imbeciles are persons in whose case there exists from birth, or from an early age, mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so.

Etiology.—In the more pronounced cases of idiocy and imbecility, a neuropathic heredity is almost certain to be elicited. The defect in vitality shows itself specially in a want of cerebral development from failure of nerve force. The association of epilepsy with idiocy is a particularly close one. Alcoholism in the parents is accredited with being a common cause. This is so far true that an alcoholic parentage means in most cases an unstable nervous inheritance, and that the abuse of alcohol, or a diseased condition of any kind in the parents, at the time of conception, cannot be supposed to conduce to healthy offspring. This applies also to the mother during pregnancy, especially in the earlier months; emotional shocks or injury may produce failure in nutrition of the fœtus, leading later to an arrest of mental growth. This may account for its abnormal frequency in illegitimate children. A bad confinement is often held to be the cause; prolonged labour,

the use of forceps and of anæsthetics, are all blamed in some cases, but it must be borne in mind that an irregularly formed head is often the cause of difficult childbirth. It is, moreover, a fact that idiocy is commoner in boys than in girls, and that the male infant's head is proportionately larger than that of the female. It also occurs more frequently in first pregnancies

Fig. 26.—Genetous idiocy.

and last pregnancies, the former being probably due to the exigencies of a first labour, and the latter to the failure of the mother's nervous energy. Organic brain-trouble in the child, inherited Syphilis, or acquired disease such as Cerebral Meningitis or Hæmorrhage with resulting paralysis, lead to mental arrest, and so do Scarlet fever and other exanthems. Convulsions from teething indicate an innate nerve instability which sometimes produces mental defect. Consanguinity has an

increasing effect, if neuroses occur in both parents. The children of aged parents, or of those disproportionate in age, are frequently defective, and sometimes also children of premature birth. Early ossification of the skull signifies that there is already brain defect, rather than that the brain is prevented from growing.

Varieties of Idiocy

1. Genetous.—This class consists of those idiots that are more essentially congenital than the other varieties, and in which no obvious cause can be traced during life, although there is sometimes a history of a fall, or of a difficult labour. They are stunted in growth, but they present no deformities, and some are improvable to a certain extent, but the more marked degrees of so-called *Infantilism* have but feeble vitality. Closely allied is the *Amaurotic Family Idiocy* of Jews.

2. Mongolian.—These have the facial expression of Chinamen, with flattened noses and obliquely set eyes. The tongue is enlarged and fissured, the hands and feet are stumpy, the skin is dry, and they have a dwarfish figure. Their disposition is affectionate as a rule. They often have heart trouble and they are especially liable to diarrhœa.

3. Microcephalic.—These idiots look as if they were brothers and sisters, and are of a bird-like appearance. The circumference of the head is less than seventeen inches. They are very active and imitative, and are fond of music. They are often quarrelsome and difficult to manage, but many of them can be trained to a certain extent so as to be kept out of mischief.

4. Hydrocephalic.—This is due to closure of the foramen of Magendie at birth or later, thus causing interference with the drainage of the cerebro-spinal fluid through the spinal canal. The head is considerably enlarged, especially in the temporal region, so that there is increased width between the eyes, and the eyeballs are sunken. Many are unable to walk. They are usually quiet, and they seldom live long. The bony structure of the skull is generally thin and occasionally almost diaphanous.

5. Hypertrophic.—This is a rare condition in which there is inflammatory hypertrophy of the cerebral interstitial tissues.

FIG. 27.—Group of microcephalic idiots in one family.

The head is elongated and larger than usual, especially above the superciliary ridges.

6. Eclampsic.—This term is more particularly applied to those cases that exhibit convulsions during teething. They are passionate and difficult to train.

7. Epileptic.—If epilepsy be developed in children before

Fig. 28.—Epileptic idiocy.

the age of seven years, mental enfeeblement amounting to idiocy is sure to accompany it. Such children may be specially schooled, but whatever is learnt is usually forgotten again, at every recurrence of fits. They form a numerous class, and are frequently irritable and impulsive, and the prognosis is bad, although some improve under the influence of Bromides.

8. Paralytic. This is usually the result of Cerebral Hæmorrhage from trauma at birth, or from a fall during early

life, producing hemiplegia or diplegia, sometimes with spasticity or choreiform movements. These cases are very manageable, and are capable of being taught.

9. Inflammatory.—This is a condition of chronic Encephalitis set up by Scarlet Fever, or by some other exanthem. Some cases are amenable to training, but the majority are unfavourable.

10. Syphilitic.—The usual signs of congenital specific disease are present. The condition is somewhat rare, and seldom develops until the eruption of the permanent teeth begins, when convulsions may occur and mental arrest ensues.

11. Idiocy from Deprivation of the Senses.—This arises if two of the higher senses are deficient, such as Sight and Hearing. These cases are difficult to teach, but many of the blind, and deaf mutes, can be thereby considerably improved so as to maintain themselves to some extent, and indeed can be educated to a certain degree of mental development.

12. Cretinism.—This has been aptly described as an infantile form of Myxœdema, and it occurs sporadically in this country. The thyroid gland is either absent, or a small goitre is present. The child's body and limbs are slow in growth. The skin is harsh, the lips and tongue are thick. and the abdomen is prominent. Mental development is slow, but these cases exhibit no objectionable characteristics.

Physical Signs.—The body in idiocy is generally ill-developed or malformed, and frequently presents stigmata of degeneracy. The muscles are flabby and co-ordination is faulty, tremors and irregular movements are sometimes present. The limbs are stunted and some cases are unable to walk. The skin is coarse, the hair is deficient and brittle. The head may be abnormally small or large, the forehead and lower jaw receding, and the back of the cranium flattened. The facial expression is weak. The palate is often arched. Dentition is defective and grinding of the teeth may occur. The ears show various abnormalities. The eyes may be placed too close together, or too far apart, or may be situated obliquely. The throat may indicate the presence of enlarged tonsils and adenoids. The chest is often pigeon-breasted, resulting in shallow respiration. The circulation is usually feeble and the heart is at times

congenitally diseased, with a patent foramen ovale. Idiots are very prone to diarrhœa, gastric disturbances, etc., and many pay no attention to the calls of nature. The females that attain maturity rarely menstruate, but some are precocious in this respect; one or both testes in the male may be un-

Fig. 29.—Cretinism.

descended. Masturbation in both sexes is common, it may occur even as early as six months of age, and in such a case it is most intractable.

Mental Symptoms.—In idiocy these vary according to the amount of failure of development. An infant that does not attempt to suck at the teat, after repeated trials, must be regarded as deficient. This is usually accompanied by an

absence of the ordinary micro-kinetic movements, the child is badly nourished, and scarcely utters a sound. If the child lives, and is fed and nurtured, it fails to put on proper weight, and is abnormally slow in its future development as regards crawling and walking; and the muscular co-ordination in the hands is feeble. In the worst forms, speech is not attained at all or is defective. It has been computed that about 6% of idiots and imbeciles are blind, this being mostly due to optic atrophy. The other special senses are also occasionally blunted and some cases are deaf mutes. All deaf mutes, however, are by no means feeble-minded; indeed many are taught by the system of lip-reading both to understand and even to talk, and thus almost lose their mutism. Idiots in many instances hear, but do not attend; some are, however, attracted by the rhythm of music. They do not generally appreciate differences in smell, whilst they are sometimes so degraded as to eat filth. Sensation to pain causes a normal reaction in most cases, whilst ordinary tactile sensation is difficult to gauge. The faculty of attention, both voluntary and instinctive, is very weak in idiots. The memory also is generally affected. This accounts to some extent for their lack of perception, and therefore for an extreme poverty of ideas. The ideas they possess are always of the simplest nature, and the associations formed are of the feeblest character. They have no powers of abstraction, and therefore are unable to arrive at any proper judgment. They are practically devoid of the higher emotions, and many are passionate and cruel. For them, as a whole, there is no sense of right or wrong. Truth, morality, religion have for them no meaning. They have passing likes and dislikes, but their laughter and noises are mostly devoid of significance. They have no notion of the future, and live selfishly in the present. The lowest types lead purely vegetative lives, and have to be tended for their personal wants, and be protected from harm. Sleep is in general increased but disturbed, although some are very restless. Some idiots are capable of being trained up to a certain point; being very imitative, they can be taught simple handicrafts, but their work requires constant supervision. Speech is sometimes accomplished, in variable degrees of imperfection, but reading and writing, however rudimentary, are seldom acquired.

Imbecility occurs in all grades, and is sometimes associated with poor physical health. Many cases appear sharp and even clever, but more often this is in a particular direction, such as memory for dates, or certain arithmetical calculations, while the association of their ideas is always limited. Voluntary attention is feeble. Their will-power is ill-developed, and at most they can only be regarded as being partially responsible for their actions. Their emotions and instincts are strong, but on a low level and are sometimes perverted. They are passionate, and their impulses frequently bring them into trouble. Their speech is often a stammer, and is deficient in its vocabulary, but they can read and write up to a certain educational standard. They are able to dress, and care for themselves, and to take part in simple pastimes, and many are musical. But their powers of concentration are too weak for them to be capable of any solid work, yet many are able to carry out simple manual operations satisfactorily, although their labours are generally unremunerative. Imbeciles, therefore, are unable to maintain themselves, or, at any rate, cannot earn their livelihood in the social status in which they are born.

Diagnosis.—The several signs and symptoms usually establish the diagnosis with regard to idiocy. Sometimes, however, development does not proceed evenly, and a dull or backward child may not talk until the age of four, and yet turn out quite normal. In an imbecile of mature age the history is important, otherwise a case of imbecility may be mistaken for a dement.

Prognosis.—Suitable education and training tend to improve the majority of idiots. The worst cases are those that show no desire for food and drink, that are wet and dirty, that cannot walk, and that are Epileptic. Being in a low state of nutrition they are liable to intercurrent maladies, especially Phthisis. Many die young and few attain mid-life. Imbeciles are, of course, capable of further training, but none can ever be brought to a normal state. They may live on to old age.

Pathology.—The skull may be deformed, the bones thickened, or diaphanous in places. The membranes are usually opaque. The brain varies in size and weight, and as a rule there is excess of cerebro-spinal fluid in the sub-arachnoid space

and ventricles. The latter may be enormously distended in Hydrocephalus. The brain is wanting in its convolutions, the cortex is thin and there is considerable overgrowth of neuroglial tissue, producing sclerosis in some cases, whilst in Hypertrophic idiocy the process is probably inflammatory in origin. Occasionally there is a cavity in the white matter (porencephaly), the result of a cyst from old hæmorrhage, which sometimes opens into one of the lateral ventricles. The cerebellum, as well as the cerebrum, may be atrophied on one or both sides, but generally the former is conspicuous from deficient overlapping of the latter. Cysts and tuberculous growths are to be met with, sometimes. Microscopically, the nerve cells are immature, being deficient in number and quality, the defect showing itself also in the paucity of the nerve processes.

Treatment.—An idiot, whether he be rich or poor, is best cared for in a special establishment. He is far happier in association with others of his own class than he is if he remains at home. Kindness and patience are necessary in his training. It is best to withhold pleasures when correction is necessary, and punishment must not be inflicted in appealing to a defective moral nature. The idiot requires to be warmly clad, and to live in the most hygienic conditions. The diet should be nutritious, but it should comprise little meat, and the meals must be closely supervised. His training has to be carried out by nurses and special instructors. Habits of cleanliness can be established in most cases by patient perseverance, yet some are hopeless in this respect. He should also be taught to wash and dress himself as far as is possible. Various methods are used to attract and stimulate the attention of an idiot. If educable at all, his special senses have in turn to be cultivated by the use of bright balls, skeins of wool, bells, etc. Co-ordination of muscular movements must be taught by using wooden bricks or ninepins, and by physical exercises and drills. Some idiots, however, are never able to walk, in spite of special devices such as swings, etc. Objects of danger, such as fire, and sharp or pointed instruments, must be gradually introduced to the child's mind, yet some never learn to appreciate their dangerous nature. As with the normal child, the idiot, to a certain extent, understands what is said to him, before he is able to make use of

articulate speech, however defective. Pains must be taken by the instructor to encourage the idiot to imitate the movement of his tongue and lips, to produce sounds which he learns to associate with simple objects. Carved objects of animals, etc., are excellent illustrations. The idiot rarely acquires speech after seven, if patient tuition has been carried out before. An idiot may scribble with a pencil, but only the highest grade can ever write intelligible words. Some idiots can frequently be properly trained to simple manual occupations, such as basket-making. Idiots are liable to colds and minor ailments, which require treatment on ordinary lines. Sedatives are occasionally required to subdue excitement, and of these, the Bromides can be recommended. As a rule idiots sleep well, sometimes by day as well as by night, and they should require no hypnotics. Cretins should have Thyroid Extract administered to them in regulated doses.

The milder cases of idiocy should be occupied as much as possible with outdoor pursuits, and they should live on plain simple diet. Idiots and Imbeciles may be certified and placed in homes and institutions under the Mental Deficiency Act or in those under the Lunacy Act.

CONGENITAL FEEBLE-MINDEDNESS

Feeble-minded persons are those in whom there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection, or for the protection of others, or, in the case of children, that they by reason of such defectiveness appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools.

These individuals, who in reality are high-grade imbeciles, have hitherto been allowed to pass as normal beings and to remain at large. They fail in the competition of life with ordinary people owing to their mental weakness. Amongst them are wastrels, ne'er-do-wells, idlers, prostitutes and inebriates. It has been estimated that 20% of the pauper

population, 20% of criminals, 10% of vagrants, 60% of the inmates of inebriate reformatories, and 50% of girls admitted into Magdalen homes are feeble-minded. Some of these persons cannot apply their attention to work and either will not or cannot find employment, and therefore they prey on others and border on the criminal classes. Some of them are known to have been defective at school and can be differentiated from ordinary dull or backward children, who in time become normal. The Educational Medical Officers use the Binet-Simon and other tests to distinguish between them. Until the Mental Deficiency Act comes into operation, no means are possible to supervise the careers of the feeble-minded who have reached adolescence. To some extent, they are the result of bad parentage, but sometimes they arise as a natural variation from a healthy stock. The majority belong to the lower classes of society and unfortunately tend to procreate through marriage or illegitimacy to an alarming extent. Their progeny is always unsatisfactory, as such feeble-mindedness tends to be transmitted, or to be transmuted to allied mental disorders. It is hoped that the Mental Deficiency Act (*vide* p. 275) will lead to the provision of approved homes, certified houses, and institutions for their care, and thus prevent them from getting into harm. Formerly when they left the special schools at the age of sixteen, no further control was possible.

MORAL DEGENERACY

Moral Imbeciles are persons who from an early age display some permanent mental defect, coupled with strong vicious or criminal propensities on which punishment has little or no deterrent effect.

In the majority of cases of mental aberration affecting the ideational sphere, whether from congenital deficiency, or from acquired insanity, the moral functions are usually implicated in some degree, together with the ordinary emotions and instincts. This moral affection is sometimes particularly marked in Imbecility (Moral Imbecility), but it occurs also in the early stages of General Paralysis, in Alcoholism, Paranoia,

and Epilepsy. Sometimes also, moral failure is left after a patient has apparently recovered from an attack of Mania. Moral obliquity of an irresponsible nature is also sometimes present in persons who are usually regarded as normal, or may even be associated with superior mental development, but it is, as a rule, associated with some degree of Imbecility. It is then questionable how far the conduct of these individuals may be considered as due to a pathological state, or to be dependent on inherent criminal instincts. The border-line is hard to define, and some authorities hesitate to admit of *Moral Insanity*, apart from other symptoms of mental disorder. The medical witness is at times taunted with the lameness of his evidence in the defence of an individual, whom he believes to be defective in the moral sense, whose conduct brings him into collision with the law and who yet displays no intellectual flaw or other evidence of insanity. The criminal, especially the recidivist, shows the same want of moral obligation, but he frequently adopts his career, well knowing the risks, and accepts these of his own free will. On the other hand, the moral defective, whether he be a thief or a liar, does not possess the same degree of responsibility. Useless articles are stolen, sometimes of no value, and he may take no pains to hide them from others, or he fabricates statements and makes false accusations, the full consequences of which he does not realise. Albeit the physician should approach such a case with an open mind, and it is probable that many so-called Kleptomaniacs are criminals of the higher ranks of society, in which case punishment is the proper award for their misdoings. The history should be inquired into. A pathological character is generally the result of diseased or neurotic parentage, in which case mental and moral instability were manifest during childhood. The individual was perhaps wayward and cruel, difficult to manage in early life, precocious or late in development sexually and mentally. A criminal has not always this evolutionary basis; his vicious tendencies break out at adolescence or later, he is often the outcome of evil associations and he does not wish to earn an honest living. Punishment has some remedial effect on his nature, whereas it hardly touches the morally defective person. It is questionable what attitude should be assumed towards the class of sexual inverts and

perverts. They are certainly a menace to the well-being of society and should be kept in seclusion, if they are unable to control their unnatural instincts, which for the most part are congenital in origin and incurable. At present, they are sentenced by law as criminals for a period, only to return to their evil habits when at liberty again.

When a case is once correctly diagnosed as one of moral degeneracy, but little improvement is to be expected. Its proper management and treatment is to be sought in adequate supervision according to the status in life, and in the prevention of transmission of the misfortune to others by procreation. Moral imbeciles can thus be dealt with under the Mental Deficiency Act.

CHAPTER XIII

DEMENTIA PRÆCOX

Dementia is a condition of acquired weak-mindedness in all stages of gradation, from mere "facility" to a complete absence of all the higher mental functions. There is a loss of spontaneity of thought, blunting of the emotional life, shallowness of will-power, and defect in conduct. Above all, the memory is generally much involved. The term Dementia is used for cases in which the mind, having once reached its proper evolution, has since shown indications of weakness, in contradistinction to Amentia, which is an inborn or congenital defect.

Dementia Præcox, or Precocious Dementia, a term first applied by Pick of Prague in 1898, comprises a group of cases which form about 12 % of admissions to asylums. It owes its differentiation from other types of insanity largely to the investigations of Kraepelin. The recognition of a case of Dementia Præcox in its early stages is helpful as regards prognosis, and therefore merits the utmost consideration. At present, it is not yet absolutely agreed how far the term should be applied, but the student may content himself in learning that the vast majority of cases occur between the ages of fifteen and thirty-five, and are therefore included in the Insanities of Adolescence, which have been so fully dealt with by Clouston. Yet it cannot be denied that the symptoms of Dementia Præcox do, on rare occasions, first manifest themselves later in life, and therefore the term cannot be used as quite synonymous with those types of adolescent insanity in which the prognosis from the first is bad. It is closely allied to Imbecility, from which, however, it may be distinguished by the history. The older authors used the term *Primary Dementia* to describe the condition, and this is still used for

official purposes by the Commissioners in Lunacy. The term "Schizophrenia" has in recent years also been applied to the disorder. A patient who is approaching, or has reached, maturity and has possibly pursued his occupation in life satisfactorily, occasionally even with brilliancy, shows signs of mental failure of a slowly progressive nature. He is at times excited or depressed, becomes dull, and is lacking in social instincts. He loses all zest in the healthy competition of life and is content to take a back seat in whatever he undertakes. He becomes devoid of all initiative, and is finally a dead weight as regards his influence in the community.

Etiology.—Dementia Præcox invariably originates from a neuropathic stock. Only occasionally are there two cases to be found in one family, and sometimes the other brothers and sisters are above the average in mental capacity. There is often a history of masturbation, which, however, must be regarded rather as a symptom than a cause of the disorder, as is also the statement, frequently made, that patients have been seclusive, and prone to introspective habits of thought. The condition, as a process of mental dissolution, is the grade nearest to imbecility. In some cases, an animal course of life has been led, with but little incentive to ambition.

Varieties.—The symptoms of Dementia Præcox group themselves under four main forms, although it must be granted that these forms frequently merge into one another. It is, however, useful clinically to distinguish them, viz.:

(1) Simple Dementia Præcox,
(2) Hebephrenia,
(3) Katatonia,
(4) Dementia Paranoides.

Simple Dementia Præcox.—In this variety, the patients live, as it were, on a lower plane of activity which, in an extreme measure, betokens a purely vegetative life. Their movements are clumsy, motor characteristics being, for the most part, latent. They may eat and sleep well, but they are not capable of doing much work. The association neurons have become disconnected, so that ideation is retarded, or disturbed. Their thoughts are circumscribed, and delusions may

often be present. They evince but little feeling, although they may easily be roused into a state of angry passion or inordinate laughter, inasmuch as their self-control is weakened. Masturbation is frequent. Memory is sometimes defective, especially in the recollection of proper names. All recently acquired knowledge is apt to be forgotten. Many cases remain in a condition of Partial Dementia which has not progressed further. The general appearance of the countenance shows a want of expression. Patients are untidy and sometimes dirty in their general habits. The reflexes are slow, and there is some tendency to slight general anæsthesia.

Hebephrenia (*ἥβη*, puberty; *φρήν*, the mind), which owes its designation to Kahlbaum, is characterised by mental depression, apathy, and incapacity for work. There are intervals in which the patient is restless and wanders about aimlessly, the depression being replaced by contentment and laughter. He usually shuns the society of others, is untidy, and lounges about in comfortable armchairs, doing nothing. Hallucinations are frequent, and mental deterioration is, as a rule, progressive until Dementia is fully established. Sometimes, definite persecutory delusions arise, and the Hebephrenic develops into a case of Dementia Paranoides.

Katatonia (*κατά*, down; *τόνος*, tension), to stretch or strain oneself, a word also coined by Kahlbaum, who first described its depressed form in 1872. There is uniform rigidity of the muscular system. The patient is usually mute and resistive, exhibiting a condition of obstinacy and perverseness. He often repeats a sentence over and over again and exhibits peculiar stereotyped mannerisms. Sometimes a patient may be quite apathetic, and shows but little sign of mentation, the condition is then styled Katatonic Stupor, but consciousness is not really affected in the early stage of the disorder. He sometimes neither speaks nor moves, but will allow his limbs to assume any position in which they may be placed by an observer (*Catalepsy or flexibilitas cerea*). The condition may pass into a state of excitement, the patient making grimaces and gesticulating. He is frequently impulsive, destructive and dirty in his habits, and incoherent in speech. Hallucinations are common.

Dementia Paranoides is the term applied to those cases

FIG. 39.—Dementia Præcox (Katatonia).

in which delusions of persecutions are uppermost. They are often also exalted in their ideas, and they have marked hallucinations which vary from time to time, and correspond with the delusions. Aural hallucinations are most usual, but all the senses may be affected. Visual aberration is rare. Many patients complain of electrical currents affecting them and others are full of insane suspicions. In the course of time, as the Dementia increases, mannerisms and careless habits become manifest. This variety is sometimes superimposed on the Hebephrenic form.

Physical Signs.—In the early stages of Dementia Præcox the patient is in indifferent health, with a sallow complexion and a poor pulse. The hair tends to stand on end, and Stoddart has pointed out that there is frequently complete transverse wrinkling on the forehead. The deep reflexes are notably exaggerated. Patients take their food well, as a rule, and in time tend to improve physically and even to become fat. In the Katatonic variety, the hands and feet are frequently swollen and blue, and there is œdema about the face. The Paranoidal cases do not, as a rule, show much physical disorder.

Mental Symptoms.—At the outset of the disorder, sensation is certainly affected in many cases of Hebephrenia and Katatonia, but whether a true anæsthesia exists, is doubtful. The patient sometimes seems to take no heed of impressions of which, when he improves for a time, he asserts he was fully conscious. Similarly, perception and ideas of place and time are not lost, but hallucinations, especially aural, exist. Memory, likewise, is scarcely affected at first, and the patient's insight into his condition is sometimes present. The patient is apathetic as to his state and his surroundings, but he exhibits markedly a condition called *Negativism*, *i. e.* he carries out an action exactly opposite to what is requested. He is not suggestible and frequently becomes resistive, and refuses to dress or undress. *Mutism*, which is so often present, is also due to the negativistic spirit, and when the silence is broken he may utter a string of words over and over again (*Verbigeration*), or he repeats what he has just heard (*Echolalia*), or again he imitates the gestures of others (*Echopraxia*). A patient develops peculiar *Mannerisms*, *e.g.*, touching things as he passes, or standing on one leg, and when such tricks or gesticulations are

FIG. 31.—Dementia Præcox (flexibilitas cerea).

constantly repeated, the condition is called *Stereotypy*. One frequently sees a patient walking on one line in a strained attitude along the same patch of grass. The patient, although conscious of his environment, does not appear to assimilate impressions, and there is a gradual decline in the thought processes as the Dementia progresses. Delusions usually appear in Dementia Præcox; they are most pronounced in the Paranoidal variety, and the patient may become talkative, and he may write many letters. He is defective in emotional reaction, being rarely very depressed or very excited. He shuns the company of other patients and generally tries to hide away from the doctor on his regular rounds of visitation. Very rarely does he evince any homicidal tendencies, but occasionally a Paranoidal case may become dangerous on account of his delusions.

Diagnosis.—The disease is one beginning principally during adolescence, but it may also develop later in life. It must be distinguished from Imbecility, which is a condition of mental weakness from birth. The history of gradual and insidious development of signs of insanity should be helpful in diagnosing a case of Dementia Præcox from Maniacal-Depressive insanity or Confusional insanity, apart from the characteristic symptoms of negativism, verbigeration, stereotypy, etc. Physical signs of General Paralysis, after Congenital or Acquired Syphilis, as well as those of other Organic Brain Disease, should always be looked for. The Paranoidal form resembles Paranoia to some extent; hallucinations occur in both, but in Paranoia the delusions are more persistent and systematised, and the tendency to Dementia is but small, whilst the mannerisms are also absent.

Prognosis.—A fair proportion of dements in asylums consist of cases that began with symptoms of Dementia Præcox. It is not too much to say that 80 % of cases of the disease never recover sufficiently to earn a livelihood. Of the remaining 20 %, in some there is an arrest of the disease for a time, these cases being regarded as cures, others may become partially demented only, and others again develop Phthisis. The Paranoidal form is most chronic in its development, Dementia being almost certain to supervene in the course of time. Katatonia has a somewhat better outlook than has Hebephrenia.

Pathology.—Nothing distinctive, so far, has been described

to account for this disorder. It has been suggested that it may be due to auto-intoxication, possibly from internal secretions of the sexual organs, in persons of degenerative stock. The brain convolutions are sometimes found irregular, and gliosis of the deepest layer of the cortex has been described. This assertion has led to the hypothesis that a pathological dissociation is thereby induced between the afferent and efferent neurons of the brain. Some of the nerve cells are described as immature. In advanced cases there is the usual microscopical appearance of a cortex from a case of Dementia with total destruction of nerve cells.

Treatment.—Unless the patient is very well off, it is usually wisest to send him to an institution. Supervision under a companion or medical attendant may suffice in early cases and during remissions, but when mutism and negativism are marked, the patient ought to leave home. All bad habits must be corrected, and the patient should be encouraged to occupy his time usefully. The physical health must be improved by nutritious food and tonics. Bed treatment is usually indicated in the Katatonic cases. Rarely are psycho-analytical measures available as therapeutic agencies.

SECONDARY DEMENTIA

This is the chronic state of weak-mindedness frequently called Terminal Dementia, which is answerable for so large a proportion of the chronic inmates of asylums. It occurs in all degrees, from mere stupidity or apathy of mind with restless movements, to an apparently total absence of the mental functions when, in extreme cases, the patient is reduced to the lowest level of animal life. The mental dissolution may be general or partial, and in the latter case the term Partial Dementia is often used. The condition is called Secondary because it supervenes on other attacks of insanity. It has been said that all insanities tend to some degree of Dementia, and that the excitement or depression in a given case is only a phase in the process of Dementia, which is to some extent present throughout. On the other hand it must

be acknowledged that many persons recover from first attacks of insanity completely. It must be understood that Secondary Dementia is not a distinctive entity, confined to Maniacal-Depressive disorder of an incurable type, but the last stage of various insanities, its origin being occasionally traced easily in any particular case. Secondary Dementia is an incurable state which lasts so long as the patient lives.

Etiology.—A history of neuropathic stock is usually, but not by any means always, elicited. The Dementia occurs as a result of a severe attack of (Intermittent) Maniacal-Depressive, or of Confusional insanity, or from repeated milder attacks of these disorders. It also takes place as the terminal stage of Alcoholic, Epileptic, and other insanities. It may be regarded as a part-process of General Paralysis.

Mental Symptoms.—The patient shows a want of interest in his surroundings and fails to take in impressions. Perception is disordered, and in profound cases it may be quite absent. The patient's memory is much impaired or it may be absent altogether, and his ideas of time are confused or lost. He is unable to converse with any intelligence or he may be perfectly incoherent, with remnants of delusions and hallucinations. He takes no notice of family news given to him. His feelings and emotions are deadened. At times he has outbursts of noisy excitement, and he may be impulsively violent, but the attacks of passion are usually short, and suicidal impulses are rare. His instincts are affected, he is apt to bolt his food voraciously, whilst other cases need hand-feeding. The sexual passion is sometimes dormant, but, when active, it gets out of control, and masturbation is frequent. Bad cases become wet and dirty, and the habits may be filthy. Patients tend to collect rubbish in their pockets and to put refuse into their mouths, or even to swallow stones, if not watched. Their actions are degraded, they are untidy, and destructive to their clothing and to articles of furniture, and pay but little heed to the calls of nature, unless trained by nurses.

A secondary dement in time automatically conforms himself to the discipline of an institution. He is difficult to keep clean or neat, and he cannot adapt himself to the environment of everyday family life.

Physical Signs.—The expression of the face becomes vacant. The circulation is, as a rule, feeble. Nutrition is variable, some cases being very thin, and others plump or even fat, with a greasy skin and a tendency to eruptions. The attitude and gait are slouching, and therefore there is a tendency to lung affections, especially Phthisis. The majority of these patients usually sleep a good deal.

Diagnosis.—This must be made from Stupor, which is only a temporary cessation of the mental functions, and from special varieties of Dementia, by the history and bodily signs, *e. g.* cases of Dementia Præcox usually show some indications of stereotyped movements and mannerisms, etc.

Prognosis.—No case of pronounced Secondary Dementia ever recovers, although apparent improvement under routine treatment is frequently observed in many patients. Secondary dements with proper care, therefore, live for years, though they are more prone to intercurrent maladies than are normal people.

Pathology.—The brain shows degenerative changes with destruction of nerve cells and nerve fibres, together with increase in the neuroglial elements. Some excess of cerebro-spinal fluid is present if wasting is pronounced. Vascular changes may be found. The membranes are usually thickened and opaque, and the skull cap may be dense, and may show calcareous plates. Fatty degeneration in the visceral organs is frequent.

Treatment.—This consists in careful and regular management. The patient should be properly dieted; some dements eat enormously, whilst others have to be spoon-fed. The bowels must be attended to in order to obviate either diarrhœa or constipation. It is customary to give most of these patients a laxative once a week and to train them to regular habits. Exercise in the open air is necessary, and perfect hygiene should be maintained. Many of the milder cases can be made useful and happy under supervision in institutions by some occupation, such as employment in the workshops or laundries, or by work in the garden or on the lawn. All possible means should be adopted to correct bad habits. In bed-ridden and advanced cases, absolute cleanliness should be maintained to prevent bed-sores. A dement should never be allowed to

transact any business. If he has any mind left at all, he would sign away anything, if capable of writing.

ORGANIC DEMENTIA

This is a condition of loss of the mental faculties due to some obvious lesion of the brain, localised or diffuse. Patients are usually in middle or advanced life, and although the main feature is that of chronic weak-mindedness and apathy, there is also from time to time restlessness, irritability with delirium, excitement, or depression, rendering them difficult to be managed. The majority of cases have Arterio-sclerosis or some vascular lesion of the brain which has left possibly Hemiplegia or Aphasia with marked mental symptoms. Cerebral thrombosis, usually Syphilitic but occasionally of Septic or of other origin, or embolism or hæmorrhage may be the cause of the trouble; or the condition may be due to a Tumour, a Gumma, or rarely to Abscess or Meningeal inflammation, Syphilitic, Tubercular, Traumatic, or otherwise. The student should refer to the textbooks on general Medicine for the differential diagnosis of Gross Brain Disease. The eyes should always be examined for signs of optic neuritis, etc.

Symptoms.—The mental deterioration in these cases is usually progressive, with marked loss of memory. There is mental confusion, both as to time and place, with delusions of identity, and general childishness. The special senses are dulled and sometimes disordered, and the patients are liable to lethargy and somnolence. There is a lack of spontaneity in thought and action. The speech is slow and often indistinct, owing to paralytic or aphasic defect, or there may be absolute incoherence. Headache is sometimes complained of, and sleeplessness may be the result. The patient's habits degenerate, leading in some cases to acts which may bring him into contact with the police. Some of the symptoms appear to be due to alteration in arterial tension, with disturbance of pressure of the cerebrospinal fluid. *Witselsucht*, *i. e.* an undue tendency to jesting, often occurs.

Diagnosis.—Occasional mistakes have been made in dis-

tinguishing Organic Dementia from General Paralysis, Uræmia, and even Hysteria; but a careful physical examination should render the diagnosis clear.

Prognosis.—As regards mental recovery, this is generally bad, but some Syphilitic cases improve although but few are cured. The nature of the lesion present will be the best means of estimating the patient's length of life.

Treatment.—This must be conducted on general lines, and it is only occasionally necessary that a patient should be certified, and removed from home surroundings. In some cases of cerebral softening due to specific disease, Mercury and Iodides, or Salvarsan should be given. Any localising signs should be carefully noted in cases suspected of new growth, the possibility of surgical interference being borne in mind. Lumbar puncture has relieved some cases due to Meningitis.

SENILE DEMENTIA

The approach of Senility is accompanied by a certain amount of sluggishness of the bodily and mental functions, which deteriorate side by side, and this deterioration must be regarded as physiological. The outlook on life, in general, tends to be less hopeful. Depression and irritability are therefore common, whilst in predisposed persons genuine attacks of intermittent Mania or Melancholia may occur. These attacks, if not ending in recovery, may lead to the establishment of Dementia; but the condition is one mostly met with as a result of a gradual progressive mental weakness in excess of the decay of the general physical processes, and accounts for as much as $11\frac{1}{2}\%$ of insanity.

Etiology.—From sixty-five upwards is the age when mental decline usually begins in these cases, but occasionally as a result of precedent Syphilis, or Alcoholism, with arterial degeneration, the mental dissolution begins at an earlier date (Pre-senile Cortical Atrophy). The patient may have had to give up his former occupations, or he has retired of his own accord, and it would appear that frequently, the necessary stimuli for the proper maintenance of healthy

mental life having been cut off, the patient drifts into a state which augments the progress of the disorder.

Physical Signs.—The history is usually one of loss of weight. The muscles are flabby and weak, the reflexes are diminished, and the bones become brittle. The forehead is wrinkled, the teeth are loose, decayed or absent. Arcus senilis may be present, with lustreless eyes. The vision is usually impaired, deafness is frequent, and in fact all the special senses are dulled. The abdomen is flaccid, the liver sluggish, and irregular action of the bowels is common. Micturition is frequent, this being usually due to prostatic enlargement.

Mental Symptoms.—The patient becomes peevish and irritable, has attacks of ill-temper and is quarrelsome. He mislays his belongings, becomes suspicious, and accuses others of purloining his property. He is therefore prone to hide his money and articles of value. In the early stages he may complain of headache and sleeplessness. He usually drops off to sleep during portions of the daytime, and then becomes restless at night, often refusing to go to bed at all, or rising early in the morning. His memory is affected; at first he forgets perhaps proper names only, then ordinary present events, until finally he remembers only the facts of his earlier years. His perception is disordered; in profound cases he mistakes the identity of those about him, and fails to recognise even his relatives. Fleeting delusions occur, especially in the latter part of the day and during the night. Patients at times become noisy, and accuse others of assaulting them. As the disease progresses, the memory is quite obliterated, and incoherence is absolute, so that speech is unintelligible. The primary instincts become affected, but not always quite regularly; the sexual function is frequently hyperactive and is not under control, possibly owing to prostatic irritation. Senile cases, therefore, become at times the subject of inquiry at police courts.

Diagnosis.—Senile Dementia is so far characteristic, but in its milder forms it resembles ordinary Senility, from which it differs only in degree. The age of the patient and the failure of memory should especially help to distinguish it from other insanities.

Prognosis.—There is little hope of improvement or of arrest of the condition, which progresses until the patient's vital organs are exhausted. The average duration of these cases is about five years, although some last longer, and others succumb after a few months.

Pathology.—The skull, although occasionally thinner than normal, is not infrequently thickened, and the dura becomes adherent. The Pacchionian bodies are enlarged, and the pia arachnoid has a milky and opaque appearance. The brain is shrunken in bulk, owing principally to atrophy of the grey matter of the convolutions, which is most marked in the frontal region. There is complementary increase in the amount of cerebro-spinal fluid. Microscopically there is extensive destruction of the nerve elements with proliferation of the neuroglia. Some of the nerve cells are atrophied, which in certain cases is the primary condition (Presbyophrenia), in others it is probably secondary to vascular affection, the blood vessels being sclerosed from Renal or Syphilitic disease (Arteriopathic Dementia). Localised softenings are commonly found. The visceral organs indicate degenerative changes, and the bones are atrophied. It has been suggested as an explanation of the loss of vitality, degeneration and decay in old age, that the cortical atrophy on which Senility depends is due to auto-intoxication. This may be due to defective metabolic processes of the tissues leading to a diminution in intensity of afferent impressions from the viscera in particular, the brain being thus deprived of its former organic stimuli upon which mental activity so largely depends.

Treatment.—This resolves itself into the most careful supervision and nursing. In no case can the tact and patience of a nurse be so much put to the test as in that of a restless Senile Dement. On sentimental grounds it is best to strain an effort to keep the patient at home, making use of certificates only if active control or interference is imperative. It is in time realised, however, in most cases that a separation from relatives and home influences is best, and that these patients are happier in a small institution where every comfort can be obtained, and where there is scope for their activities. To allay the nocturnal restlessness Veronal gr. v. to gr. x. may be given in hot milk before retiring to bed, or Sulphonal gr. xv.

may be prescribed. Frequently some milk and biscuits will calm the patient during the night. Alcohol is sometimes indicated, especially at bedtime to assist in producing sleep. Gentle exercise in the open air during the day, with a proper regulation of diet is all that can be done for the patient, who in time becomes a bed-ridden invalid and needs the most careful nursing. The bladder and rectum require close attention. Care should be taken that the patient does not trip up or fall, especially as the bones are fragile, and easily fracture.

CHAPTER XIV

GENERAL PARALYSIS (DEMENTIA PARALYTICA)

This disease is frequently termed General Paresis, Progressive Paralysis, and Paralytic Dementia. The main feature of the condition consists in a gradual weakening of the mind and body, tending to Paralysis and Dementia, and ending fatally in the course of two or three years. The pathological anatomy of this disease has done much to demonstrate the connexion between mind and body. It may indeed be considered the essential link between Mental diseases and general Medicine, in spite of any scepticism concerning this relationship. To a former Superintendent of Bethlem—Dr. Haslam—belongs the distinction of first drawing attention to the disease, in 1798, but it was not fully accepted or described until Dr. Bayle, a French physician, wrote his monograph in 1829. Esquirol had also pointed out that insanity associated with difficulty in speech was invariably fatal. General Paralysis accounts for about one-sixth of the total number of deaths in asylums. Whatever its incidence has been in the past, it appears to have been on the increase of late, and it now forms about 9% of admissions to all asylums and considerably more in some than in others. In the London County asylums it forms about 16% of the male admissions.

Etiology.—Of all the causes to which this disease has been attributed, Syphilis is undoubtedly the outstanding factor. It is indeed not too bold to state that an individual who has not inherited or acquired Syphilis is immune from General Paralysis. There is no authentic record of any disease resembling General Paralysis amongst the Ancients. It probably existed in Shakespeare's time (*e.g. Troilus and Cressida*, Act II, sc. iii, lines 165–175). It is to be noted that Syphilis, which was endemic in Naples in 1494, spread to France later on, and was imported

thence to England. The syphilitic origin of General Paralysis was first suspected in 1857, but it is only in recent years that it has been universally accepted. A history of Syphilis is usually admitted in 75% of cases, and in a variable proportion of the remainder evidence of the infection can be detected. Patients frequently mislead the physician wilfully as to their past, whilst many do not know that they have ever contracted the disease. The primary chancre may have been unnoticed, and the secondaries may have been too slight for recognition. It is, moreover, probable that the virus-producing organism, a spirochete—the treponema pallidum—affects the nervous system rather than the mesoblastic tissues. The condition has been regarded as a Para-Syphilitic disease and develops on an average ten years after infection, but it may arise as early as five years or as late as twenty years after the disease has been contracted. That Syphilis alone cannot produce the disease is manifest from the comparative rarity of General Paralysis in persons who have been subject to specific infection. It has been computed that 4 % of such persons who at one time or another have suffered from Syphilis ultimately develop General Paralysis or Tabes. In the juvenile form of the former disease, evidence of Congenital Syphilis can practically always be obtained. It must be borne in mind that syphilitic persons develop other varieties of insanity besides this disease, and that occasionally a General Paralytic has a history of a former curable attack of insanity. From an analogy with Tuberculosis it has been suggested that there is a particular diathesis associated with this disease. Some cases of Primary Dementia begin with a precociousness which flickers out early, and they settle down to a permanent vegetative existence, so that it has been hinted that General Paralysis is but a fatal form of Para-Syphilis superimposed on this condition: in other words, that the Primary Dementia would have become manifest had the patient escaped luetic infection. The patient's history, however, often is that he was previously above, rather than below, the average in physical health and brain power, full-blooded with a sanguine temperament, ambitious, keen, hard-working, and anxious to make the most of life. Full of interests, and with no lack of self-confidence, he makes his way amongst his fellow men. Fond of society, of

good food and of the glass that cheers but at times inebriates, a *persona grata* with the opposite sex, he marries early in life, or forms an illicit connexion. Such is the frequent type of person that forms the soil for the development of General Paralysis : other contributory causes are sexual excess, undue stimulation by alcohol and by nitrogenous diet. Overwork, and the excitements and anxieties appertaining to certain classes of civilised life, also play a part in the production of the disorder. Its occurrence is infrequent in rural districts. The disease has indeed been aptly described by Krafft-Ebing as due to "Civilisation and Syphilisation." Occasionally there is, before the outbreak, a recent history of a cerebral injury, of shock, of sunstroke, or of an attack of influenza, which has precipitated the disease in the process of its evolution. Ford Robertson has described a diphtheroid organism, the Bacillus paralyticans, which he suggests invades the cerebral tissues and cerebro-spinal fluid from the mouth and nostrils, producing toxins weakening the defences of the nervous tissue. Sufficient proof, however, of its influence in the causation of the disease is still wanting.

In General Paralysis hereditary taint is not marked. Very rarely is there a history of the same disease in the parents. In 10% only of cases can Insanity, Epilepsy, or Cerebral affections be traced in the immediate ancestors. Occasionally two brothers exhibit the disease, and cases of husband and wife have been recorded (Conjugal General Paralysis).

Sex.—The disease is much more common in males than in females ; especially is this so in the upper classes. The ratio corresponds with the incidence of Syphilis.

Age.—The majority of cases occur between thirty-five and fifty, but some are recorded as early as twenty-five and as late as sixty-two. The Juvenile or Congenital cases develop about the age of twenty, or before.

Civil State.—The preponderance of cases in the acquired disease is undoubtedly amongst married men.

Occupation.—It affects all classes. It is perhaps least seen in the Clergy, and most in the Army.

Premonitory Indications.—The disease rarely sets in without some warning. Change of disposition is usually noticed. The patient may become moody and reticent, loose in his

morals, restless, and unable to give the former attention to his work. Hypochondriacal feelings may ensue, and the doctor is accordingly consulted, or, if a poor man, he becomes an out-patient at the hospital. Insomnia may supervene, with symptoms of elation or depression, or else the establishment of the disease may be definitely ushered in by a cerebral seizure.

Physical Signs. *Reflexes.*—Amongst the earliest of these signs is loss or sluggishness of the pupillary reflex to light, whilst

Fig. 32.—Group of general paralytics.

accommodation is unaffected (the Argyll-Robertson pupil). The sympathetic and consensual reflexes are also impaired. The pupils are more often contracted than dilated in the early stages, and frequently they are unequal in the two eyes (Fig 33). The knee-jerks are usually increased, except in those cases associated with Tabes, in which they are absent. The skin reflexes for the most part are normal, but they are deficient in depressed cases. An important reflex, the pharyngeal, disappears early in General Paralysis—stimulating the back of the throat with a feather frequently produces no discomfort, whereas there is no marked anæsthesia in the skin.

Tremors.—Fibrillary tremors are observed in the protruded tongue, in the lips and the lower part of the face, and they are increased by emotion. Tremors of the hands are also noticeable, and later, the manual and other actions are quite incoordinate.

Gait.—At first active and brisk, as the disease progresses the muscular weakness and inco-ordination result in a shuffling gait, and finally the patient is bed-ridden, with muscular wasting and contractures.

Congestive Seizures.—These occur sooner or later in the vast majority of cases, and are accompanied by a rise in temperature. They are generally of an epileptiform nature. Consciousness is usually completely lost, but in the slighter

Fig. 33.—Unequal pupils in general paralysis.

cases with local " sensations " or a " faint," the patient is aware of his condition. The " fits " are most frequent on the right side, and speech for the time being is implicated; but in some cases both sides are affected, thus resembling genuine Epilepsy, or else the patient may have " twitchings " only, of the face, hand, or leg. A succession of fits (Status Epilepticus) sometimes terminates fatally, or Apoplexy from ruptured vessels may be the determining cause of death. Previous to the advent of a seizure, the patient has seemed to improve in his general health, although becoming gross and fat, and losing his facial expression. After each seizure the patient shows marked deterioration, both mentally and physically, but he invariably improves again, only to be assailed by another seizure, until he becomes bedridden, with profound Dementia, and he finally dies of exhaustion.

Visceral Disorders.—The digestive functions are impaired

in the depressed cases, and constipation is frequently obstinate. The heart's action becomes gradually weaker. Pulmonary congestion is usual towards the end. The bladder often gives considerable trouble, especially in the Tabetic cases. Retention, with or without overflow, and incontinence, are both frequently met with. The sexual functions are in abeyance except in the early stages of the disease, when desire is often much increased, and the patient sometimes commits himself immorally.

General Nutrition.—At the onset of the disease there is always considerable loss of weight. This may continue in the depressed forms of the disease, but in the expansive and demented varieties the patients tend to become corpulent, until reduced by seizures to the terminal stage. The skin becomes greasy, especially about the face, hands, and feet. The blood is frequently anæmic with some leucocytosis. The urine may be increased in quantity. The cerebro-spinal fluid contains an excess of globulin, and exhibits an abundant lymphocytosis, and in almost all cases a positive Wassermann reaction is present in the blood and in the cerebro-spinal fluid.

Trophic Affections.—The bones become fragile, so that fractures may arise from slight injuries. Occasionally an "insane ear" may develop. The finger-nails may become grooved. Herpetic eruptions are sometimes seen. Bed-sores are prone to develop, in the last stage, over the sacrum and trochanter and on the heels, especially if the nursing be defective. They, however, frequently improve and cicatrise under appropriate treatment.

Mental Symptoms.—There is a gradual blunting of all the special senses, but perception is sometimes acute in the early stages of the expansive cases. Hallucinations are not common, but are prone to occur as regard the visual and auditory senses in about 25 % of cases. Orientation, as to place and time is normal at first, but becomes lost as dementia progresses. Memory is impaired from the beginning and obeys the usual mode of retrogression; proper names and recent events are forgotten first, and later there is only a distorted recollection of the past or else the memory is quite destroyed. Attention becomes weak. The association of ideas slackens and becomes disorganised as the neuronic degeneration advances. The patient loses all insight into his

condition. His judgment is so impaired that delusions of the most flagrant character arise. Intellectual operations of an abstract nature are at a standstill. Joffroy has pointed out that the arithmetical faculty is often disordered quite early in the disease, the patient being unable to add up or multiply simple sums. In expansive cases, patients boast of their superhuman strength and of their untold wealth. The exalted cases imagine themselves to be Kings, Princes, Millionaires, or even the Deity. Such delusions entail endless trouble in the early stages, before the patient is placed under care. The patient spends all his money on useless articles and brings ruin on his family, or he may accidentally commit suicide in some absurd attempt to fly without an aeroplane, or to swim across the Atlantic. The delusions in a depressed case are of an exaggerated character also. They may affect his external circumstances or himself; he imagines he is persecuted and followed by detectives, or he accuses himself of being a curse to the whole world, or he has hypochondriacal delusions about his bodily health, and fancies that he is blocked up for ever. There is an element of grotesqueness and exaggeration in the delusions of General Paralysis which is unusual in other cases of insanity. Sometimes the delusions are of an altruistic character and the patient wishes to expend his imaginary millions for the benefit of the poor. Besides his voluntary actions being so profoundly disordered, his instincts are also without proper control. He hoards up rubbish, and runs to excesses. He eats like a glutton and bolts his food, or else he refuses food altogether. He becomes careless in his attire, and is frequently destructive in his habits. At first he is unduly emotional, but his tears or laughter are shallow and are soon over; and as the degeneration proceeds, the emotional life dies out, and the face is expressionless. The speech and handwriting are always, sooner or later, affected. The speech becomes at first slow and hesitating. The patient is unable to find the word he wishes owing to lapse of memory, and when the word reaches the threshold of consciousness, he has difficulty in its articulation. The mouth and tongue quiver with increased emotion. Thickness of speech is pronounced in advanced cases; words such as Biblical Commentary, Royal Artillery, are difficult to utter. In early

cases, clipping or slurring of words is common. In the last stage there is often entire absence of ideas, and also inability to co-ordinate any movements, In the manuscripts of General Paralytics—and they are usually prolific writers—letters and words are omitted, and repetitions occur. The calligraphy changes in character, and becomes larger and untidy. In the early stages of the disease the patient is very restless during the day and is full of wants which cannot be granted. He is, as a rule, a good sleeper at night, and frequently takes a nap in the daytime also. The General Paralytic, with all his brag and self-assertiveness, is really easily managed when placed under care. He is very suggestible, with his weakened will power, and is amenable to discipline. He is also easily duped by the delusions or dishonesty of others.

Stages.—Three stages are usually described in this affection.

First Stage.—From the established onset of the disease to the first seizure. The paralytic signs are few, and are generally in connexion with speech and the reaction of the pupils. The patient is restless, loses flesh and looks ill. He is boastful or else weak-minded and emotional, and frequently has delusions. The memory is only slightly affected.

Second Stage.—The patient is recovering from a fit, which leaves him worse than he was before. His memory shows serious lapses. His will power is weak. His habits and instincts degenerate. The expression of his face alters, he loses his higher characteristics and grows progressively weaker. He becomes unhealthily fat, indeed this has been called the "fat, fatuous, and fitty stage."

Third Stage.—The paralysis has increased so that he has become bedridden, or is wheeled about in invalid chairs. He is now quite demented and takes but little notice, yet he watches for his food, and shows some pleasurable sensation whilst he is fed by his nurse. He is wet and dirty in his habits, and has to be carefully tended to prevent bed-sores. Seizures may continue in this stage, or the end may be gradual, by progressive fatty degeneration of the heart and of other vital organs. Contractures are common, grinding of teeth, and instinctive or automatic movements only remain. Swallowing towards the end is difficult, and the tube is frequently resorted to.

Varieties of General Paralysis. *Expansive or Classical.*—This variety is less common than it used to be. The patient feels well and frequently says he was never better in his life, although there are indications of tremors, and other physical signs of the disease. Delusions of exaltation develop regarding his position in the world, and he frequently alludes to his imaginary muscular strength. He talks of his millions, or wishes to distribute his money wholesale.

The Maniacal or Excited.—This is sometimes mistaken for

Fig. 34.—The third stage of general paralysis.

an ordinary case of Acute Mania, especially when the physica signs are ill-defined. The patient is violent, noisy, and destructive. The excitement after a time abates, and frequently a remission in the progress of the disease takes place.

The Melancholic or Depressed.—This variety resembles an attack of Melancholia, and although remissions occasionally occur, they are not common—the patient often drifting into the demented class. Delusions may arise with regard to the state of his soul, or as to his possessions, and he asserts he has ruined not only his family, but the whole world. Sometimes the delusions are of a persecutory nature, but they do not become systematised as in Paranoia.

The Demented.—This occurs sometimes without any seizures, the patient progressively becoming mentally deteriorated and physically weaker, without much excitement or depression, and with but little mental activity of any kind. In this variety the dementia, which sooner or later supervenes in every case, is a prominent feature from the beginning, and the loss of memory is marked.

The Spinal or Tabetic.—In this variety the spinal cord, which is, usually, ultimately involved in most cases, is affected early and the symptoms are combined with those of Locomotor Ataxy. Vesical trouble is common.

The Juvenile or Adolescent.—This is a rare affection occurring about the age of twenty, and is always associated with Congenital Syphilis.

Some writers describe also Acute (or Fulminating) and Convulsive Varieties, in both of which the patient succumbs in a few weeks or months. Some cases of General Paralysis also run an Alternating course; thus, there may be excitement, depression, or stupor of a more or less periodic form.

The disease, as it affects women, is usually more prolonged and is more often of the demented variety.

Diagnosis.—Of the utmost importance is it to distinguish General Paralysis from other mental disorders. Hyslop, in particular, has drawn attention to the various conditions that used to be called Pseudo-General Paralysis and which resemble the disease. It is unwise to give a decided opinion from mental symptoms only, and the rule is to wait for the earliest physical signs to appear, such as tremors, pupillary defects, difficulty in articulation, loss of reflexes, seizures, etc. The examination of the cerebro-spinal fluid by lumbar puncture is helpful in early cases, lymphocytosis being almost always present. The disease must ever be borne in mind in any mental disorder in a man about the age of forty. It is perhaps most often confused with Alcoholic insanity, especially when there are signs of organic disorder. The history will be helpful in some cases, but it must be remembered that General Paralytics have sometimes been heavy drinkers. Tremors, defects of speech, and seizures occur in both, but more in General Paralysis. Visual and aural hallucinations, as well as anæsthesia and other sensory disturbances, are less common in General Paralysis than in Alcoholic

insanity. The Argyll-Robertson pupil rarely exists in Alcoholic cases. The pupils may be either normal or irregular; but they usually react to light, although sluggishly. The patient suffering from Alcoholic insanity also does not sleep so well, and at times he has terrifying dreams; his memory is dulled or lost, and sometimes perverted. Cases of Maniacal-Depressive and Confusional insanity are closely resembled by some acutely excited or depressed General Paralytics. The memory defect and mental deterioration, however, are usually more marked in the latter; but an exact diagnosis may not be possible till the somatic signs become manifest. Syphilitic insanity, and insanity from Gross Brain Disease (Organic Dementia) have usually more localising signs, and optic neuritis is frequently present. Both conditions are also comparatively rare, as is also mental disorder associated with Lead paralysis. There should be no difficulty in distinguishing General Paralysis from Paranoia, Epilepsy, and other affections.

Prognosis.—In the majority of cases, the disease runs its course to a fatal termination within three years. Some patients, however, improve marvellously and appear to get well, the disease being arrested for a period of months or even a few years. Although from the nature of the remissions, it would seem feasible that recovery should be possible, it is doubtful whether, so far, this has ever occurred, in spite of reports to the contrary. The most favourable cases for remission are the Excited or Maniacal ones. The Demented cases, especially amongst females, sometimes last ten or more years, and Tabetic General Paralytics usually last longer than the average. Complications sometimes occur, cutting short the disease, such as a severe Seizure, Status Epilepticus, Broncho-pneumonia from faulty feeding and other causes, Cystitis, Urethral fever from septic catheterism, or Septicæmia, the result of bed-sores. Death also occasionally results from choking and other accidents, or from suicide.

Pathology and Morbid Anatomy.—No one can possibly doubt the toxic nature of the disease, and the fact that the poison, wherever generated, enters the circulation and pervades the whole body. The changes described have been by one school termed degenerative, by another, inflammatory, and it is probable that both processes occur. It is indeed difficult

to say whether the cortical neurons are primarily affected, or whether the vascular and neuroglial changes take place first. Authorities are still divided on these points, but Mott has done much to support the theory that the neurons are primarily involved, and that the disease is due to Syphilis. It has recently been demonstrated by Noguchi that the syphilitic organism itself has been found in the brain tissue of General Paralysis, also that rabbits are rendered syphilitic by the inoculation of cultures from the cerebral tissue of General Paralytics, the spirochetes being subsequently found in the tissues of these animals. The discussion, indeed, at the recent International Medical Congress seemed to point to the view that Para-Syphilis, after all, may be essentially parenchymatous Syphilis. Although in time the whole of the cortex becomes involved, the most marked changes occur in the Rolandic regions. Histologically, the destruction of the pyramidal cells is shown in their want of outline, and indistinctness of the nuclei which in time disappear, and by the presence of chromatolysis, the Nissl granules disappearing completely and the cells atrophying. The dendrons are destroyed as the disease advances, whilst the degeneration is seen equally in the axis cylinder processes. These changes also occur markedly in the Frontal Association areas. Evidence is, moreover, not wanting of the affection of the cranial nerves, the mid-brain, and the spinal cord. As regards the vascular system, the vessels are tortuous, distended with blood, and their walls are thickened. New formation of capillaries occurs, and the perivascular canals become choked with cells (*vide* Fig. 48). The neuroglia becomes proliferated, and there is an abundance of spider cells, plasma cells, rod cells, and mast cells, whatever their significance may mean.

On opening the skull, which is sometimes heavier than normal, the dura mater is thickened and adherent in parts, as is also the pia arachnoid. Sometimes a membrane from disorganised blood-clot exists between the dura and arachnoid. On attempting to strip the pia from the cortex a worm-eaten appearance is often left (*vide Frontispiece*, Fig. 1). There is wasting of the convolutions, especially of the grey matter, which is thinner than normal, and the sulci are very apparent. The white matter is soft and shiny, and the lateral ventricles are dilated with an excess of cerebro-spinal fluid. This excess of fluid is due to the brain

shrinkage. The lining of the ventricles presents a frosted appearance. This is specially marked on the floor of the fourth ventricle (*vide* Fig. 44). Sometimes foci of hæmorrhage or of softening are present. Cholin is present in the cerebro-spinal fluid, with an excess of globulin, and an abundant lymphocytosis (*vide* Fig. 45), but so far, no specific toxin has been found in the fluid.

The blood-vessels throughout the body are frequently in a state of endarteritis. The muscular system becomes wasted and shows fatty degeneration, as does also the heart muscle. The lungs are œdematous, and there is often evidence of Broncho-pneumonia. The liver and kidneys are generally affected. The osseous system of the body becomes rarefied, so that fractures, especially of the ribs, may occur.

Treatment.—Except in the quiet and demented cases, it is generally necessary for a patient to be certified, and sent to an institution. The excitement and delusions are such that adequate control cannot be otherwise obtained. The patient, before medical advice is sought, has frequently compromised himself with transactions that he is unable to carry out. The treatment in this disease, which must from the outset still be regarded as hopeless as to *permanent* recovery, can be palliative only. The patient requires the tactful management of trained nurses or companions. Rest and quietude should be enjoined as much as possible, but the lighter recreations and amusements are quite permissible. The patient, when curtailed of his extravagances, is usually full of wants, but he becomes peculiarly facile, and is easily convinced by ordinary excuses, without much resentment being aroused; and he improves under discipline.

During any phase of excitement, alcohol must be absolutely forbidden, and the patient should be encouraged to drink milk as a beverage. It is necessary to supervise the diet of General Paralytics, for reasons previously mentioned. It is advisable to have their food cut up for them, as the disease advances. In the last stage they do best with mince and slop diet, and they have to be fed with a spoon or feeding cup.

After a seizure it is sometimes necessary to feed with a tube for a few times. For the excitement, a mixture of Potassium Bromide, gr. xxx, given every four hours has sometimes a sufficiently calming effect, or Sulphonal, gr. xx, may be given in the late afternoon.

Hypnotics are rarely needed, and when a sleeping draught is required, a dose of Paraldehyde, ʒj to ʒij, will give repose. Ordinary symptoms must be treated on general lines, and the state of the bowels should be carefully regulated. The patient seldom has any insight into his condition, and although his state is pitiable for his relatives to witness, he is but rarely capable of feeling much suffering. The condition of the bladder requires careful attention, and some cases need regular catheterisation. Air cushions and a water bed are helpful in the bed-ridden state, and the healthy nutrition of the skin must be maintained by frequent changes of position, so that pressure may be evenly distributed. The prevention and danger of bed-sores must be ever before the medical attendant, so that absolute cleanliness and good nursing are necessary. Anti-Syphilitic remedies, so far have proved of no avail. Salvarsan, or Mercury, given by intramuscular injection or in the usual forms, has not the slightest effect in staying the progress of the disease, and indeed generally does harm. The same may be said of Iodide of Potassium. The injection of the anti-paralytic serum of Ford Robertson also has not met with the success that was hoped for. Drawing off cerebro-spinal fluid by lumbar puncture does but little good, and trephining the skull has proved ineffectual, but it is possible that by means of Salvarsan or some such drug, or of prepared serum, introduced direct into the cerebro-spinal fluid or brain, beneficial results may ultimately and safely be obtained. The treatment, at present, largely resolves itself into the management of the patient, having due regard to his symptoms. Sometimes there is an adequate warning of a seizure, such as general irritability and a slight rise of temperature. It is then best to clear out the bowels with a drop of croton oil, and to administer a dose of sedative such as Chloral and Bromide by the mouth, or *per rectum*. This is particularly necessary during Status Epilepticus. Urotropine, gr. v to x is a drug which, owing to its sterilising effect on the cerebro-spinal fluid, has its advocates in the treatment of General Paralysis. Intra-muscular injections of Nucleinate of Sodium, two grammes to 100 c.cm., or even Tuberculin is also credited with producing a remission of symptoms.

When a remission occurs, the question arises as to what is the best thing to do. The relatives will probably consider

there has been an error in diagnosis, or they believe the patient to be cured. In no case should he be allowed to cohabit if he leaves the institution, and then it is wisest to let the certificates remain in force. The majority of remissions only last about three months, and the patient relapses into his former state, often preluded by a seizure, but it must be admitted that occasionally a remission exceeds one or more years. Rarely does the disease run a course in which the mental symptoms are negligible.

CHAPTER XV

ALCOHOL AND INSANITY

Some close connexion between drink and mental disorder is obvious to everyone. Alcohol, indeed, heads the list as a causative agent in the production of the so-called toxic insanities. It is to be noted at the outset that the kind of mental disturbance attributed to alcohol depends, in some measure, on the amount of the poison imbibed, and on the length of period during which the nervous system has been subjected to its influence. Moreover, the essential mental constitution of the patient does much to colour the symptoms of the disorder present. In the opinion of Archdall Reid and others, alcohol is looked upon as an important factor in evolution. They consider that every civilised nation passes through a drunken phase, and only those particular stocks that acquire an immunity survive. Habit and experience favour the moderate use of alcoholic beverages in those who are normal and have reached maturity. Although, from the laboratory point of view, the output of work may be better in the total abstainer, yet, practically and socially a person is happier and better who can take a little harmless wine with his meals. An ordinary individual should be able to oxidise two ounces of ethylic alcohol in the twenty-four hours with impunity. The insanity that occurs from alcoholism is seen mostly in those who have been addicted to spirit-drinking over a period of years. It is probable also that the quality of the spirit has some effect. The higher alcohols and aldehydes in many brands of whisky, brandy, and other spirits have a more pernicious effect than has ethylic alcohol alone. The same may be said with regard to malted liquors, although they less commonly lead to any form of chronic insanity. Every normal individual has a specific resisting power to the pathological

influence of alcohol, but it varies somewhat in different persons. Some are quite intolerant even to small doses. This intolerance occurs in neuropathic families and especially amongst the epileptic and insane. Susceptibility to its harmful influence may also be acquired from injury to the head or sunstroke, and from the after-effects of some zymotic and other diseases. Alcoholism is frequently seen as a symptom rather than a cause of mental disease. Thus a man may drink to excess in the excited stage of Maniacal-Depressive insanity or to drown his sorrow in the depression of the same disorder, or again a patient may become alcoholic during the exaltation and loss of self-control of General Paralysis. Dipsomania is a disorder with an intermittent craving, and although described in this Chapter, is more akin to Impulsive insanity (Psychasthenia).

Etiology.—Alcoholism is decidedly a family disease, and the tendency to drink is handed down from parent to offspring in many cases. Example plays an important part, and children are often taught to drink from early years. There is frequently a history of mental instability or neurosis present. The offspring in early years are liable to convulsions and nightmares, and are often degenerate. Alcohol, by some, is drunk to excess in imitation of others; for instance, convivial drinking becomes a custom for social purposes, or industrial drinking to promote business. Thus a pernicious habit is initiated in those who have no innate predisposition. In this way a course of constant "nipping" is frequently brought about which spells ruin to the higher nervous system. It is incumbent on every medical man to be wary in ordering stimulants for slight ailments, for fear of starting the alcoholic habit. This applies particularly to women with menstrual troubles, and especially at the time of the menopause.

Varieties.—It will be necessary to mention: (1) *Drunkenness or Inebriation;* (2) *Delirium Tremens;* (3) *Chronic Alcoholism and Alcoholic Insanity;* and (4) *Dipsomania.*

1. Drunkenness, Inebriation, or Acute Alcoholism, may be defined as the effect of alcoholic stimulants, by which the senses and the mental or bodily functions of a person are impaired, so that he becomes incapacitated according to the degree of intoxication. The condition is usually due to a large amount

being consumed rapidly, but a less quantity will produce the same condition in predisposed persons.

Physical Signs.—The pulse becomes frequent and the arteries are dilated, so that there is at first a general feeling of warmth and *bien-être*, although the temperature is generally subnormal. Articulation is blurred, there is usually some muscular inco-ordination which is exhibited by inability to walk straight, or to turn round suddenly, or to stand still with the eyes closed. The tongue is coated and sometimes tremulous, and the patient not infrequently vomits later, or falls into a deep sleep. The special senses are blunted or disordered. The conjunctivae are congested, the eyes glassy, the pupils sometimes fail to react to light, and are perhaps irregular, and there may be strabismus.

Mental Symptoms.—The sense of fatigue is diminished. The association of ideas is increased and disordered. Memory and the reasoning powers, volition and self-control are impaired, so that the patient frequently becomes a nuisance or gets into trouble. The moral sense is reduced to a lower level, and the patient is apt to be boastful. He frequently loses the sense of time, and sometimes that of place. The patient's emotional state varies according to his essential mental constitution. He may be uproarious or jovial, loquacious, or mute from depression. Many are quarrelsome and aggressive, and some are even dangerous. Drink is indeed a potent cause of crime as well as of minor offences, especially in the lower classes. In persons of a neuropathic taint, drink may cause a veritable state of fury—*Mania a Potû*—the patient being quite beside himself, so that he may be homicidal or may injure himself, or he may commit an indecent assault and have no recollection of it on recovery. Some patients become subject to a transient but deep depression with suicidal tendencies. In pronounced cases of alcoholic intoxication the patient lies in a comatose state which may terminate fatally, with or without an epileptiform or apoplectic seizure. In ordinary cases recovery takes place in a few hours, but this may be delayed in severe conditions for a few days.

Diagnosis.—Various tests are applied, which, however, are not altogether satisfactory, and the history and the smell of alcohol are usually most reliable; but it must be remembered

that stimulants may have been taken as a remedy for some other affection, so that a careful examination should be made for any trace of organic disease, *e. g.* Uræmia, Diabetes, Cardiac or Nervous Disease, or Opium poisoning, etc.

Treatment.—A purge suffices in ordinary cases and Caffeine or hot coffee should be administered. To remove the poison, if the patient is seen early, the stomach should be washed out with a tube, and he should be carefully nursed in bed.

2. Delirium Tremens.—This disorder is most apt to be developed when a chronic drunkard has met with some injury, such as a fracture, or has become subject to Pneumonia or some other intercurrent malady. In such conditions, it is usual to withhold stimulants until indication for their use ensues, and when Delirium Tremens supervenes, the sudden deprivation from alcohol is generally held to be a contributory cause. There is something to be said for this view, but as a matter of fact the deprivation of alcohol in a drunkard who has not been subjected to any injury or physical disease, does not usually cause Delirium Tremens. Moreover, as the disorder becomes evident, the patient's desire for alcohol declines, and he may even have an aversion for it, so that the abstention from alcohol may almost be regarded as an early symptom of the disorder. It would appear in many cases as if a secondary auto-intoxication were brought about by the effect on the nervous system of a sudden injury, or the accession of some blood poison, which produces an attack. A patient who has once had Delirium Tremens is liable to have further attacks, if he persists in his alcoholic habits.

Physical Signs.—The patient is flushed, looks ill and is invariably bathed in perspiration. He is restless and is always fidgeting about with his fingers. The muscular system is weak, tremors are present, and the articulation is blurred. Sleeplessness is marked. The tongue is coated and tremulous; the patient is liable to gastric attacks, and he generally refuses food. Constipation is common. The pulse is rapid and of low tension, and in fatal cases (about 5 %) it is usually the heart that gives out. Respiration is frequent. The temperature varies from normal to 100° F. The urine sometimes contains albumen from co-existing kidney disease.

Mental Symptoms.—Before the disorder has quite

developed the patient is restless, irritable and cannot sleep. The mental symptoms are worse at night-time and consist largely of disturbances of perception; he becomes the subject of active visual hallucinations, mostly of a terrifying nature. He sees "blue devils," rats, serpents, etc. crawling about. He also feels them, and is under the influence of aural hallucinations, he hears "voices" of people who say they are going to murder him. Sometimes he imagines his food is poisoned, and he complains of foul odours. The hallucinations are very variable, as are also the delusions which are associated with them. He is timorous and depressed, as a rule, although in a minority of cases exaltation occurs. The patient becomes disorientated. He mistakes the identity of people and has no proper sense of his surroundings. The memory of events during an attack is very vague, although he remembers incidents clearly of years ago. He is impulsive in his actions, and his violence may lead to suicidal or homicidal attacks. He imagines that he is working at his usual daily occupation, and he may do so for hours in a grotesque manner—the 'bus-driver using perhaps string or a bandage tied to the end of the bed, as reins for imaginary horses. His attention can only be roused by speaking firmly to him and then but temporarily.

Treatment.—A darkened bedroom with plenty of skilled nurses is requisite. The patient must be protected from his impulsive tendencies and the windows and fireplace should be guarded. He is technically certifiable, and can be sent away on an urgency order to an asylum, or if a pauper, to the workhouse infirmary as a halfway house, where most of these cases recover. A plentiful supply of nourishment should be given, such as milk and eggs with an occasional basin of soup. The tube may be necessary, if all food is refused.

As the patient improves, solid diet may be given, and exercise in the fresh air will help towards convalescence. Calomel and saline aperients should be given at intervals. For the persistent insomnia and restlessness it may be necessary to administer Sulphonal gr. xxx, or Trional gr. xx. It is useless to give Chloral and Bromide in ordinary doses, but a half-dram of the former at night with a dram of the latter sometimes produces sleep. Opium is also occasionally given

with satisfactory results. All alcohol should be rigidly prohibited unless the patient becomes collapsed, when brandy will generally effect a restoration. The patient should be kept for some time under supervision after recovery takes place, to prevent relapse to former habits. During an attack, if ample means are available for a supply of trained nurses, a patient can be managed at his own house or in a nursing home.

3. Chronic Alcoholism and Alcoholic Insanity. *Chronic Alcoholism* when once established too often continues for the rest of life. It causes a gradual but progressive mental and moral degradation of the patient, which is sometimes just short of certifiable insanity. It produces untold misery in a household and the drinker becomes a disgrace to his family. The chronic drunkard's word cannot be relied on, he sinks in the social scale. He is muddled, slovenly in attire, unable to do anything until he has partaken of a drink to steady his nerves. He is subject to dyspepsia and morning sickness, his hands tremble and his bodily health fails; and unless placed under medical treatment, he becomes a curse to his relatives or he gets into the hands of the police, or drinks himself to death.

In *Alcoholic Insanity*, however, the symptoms usually come on less gradually. There is a decided change in the character of the individual, or his conduct has recently become so much affected that the case is at once recognised as one of mental disease. Most cases exhibit a state of confusion with hallucinations, which has been already described as (1) *Acute Confusional insanity* (*vide* p. 125), the less acute cases being called *Hallucinatory insanity;* others are markedly suspicious and delusional, this type may be termed (2) *Alcoholic pseudo-Paranoia;* whilst others are the so-called cases of (3) *Alcoholic pseudo-General Paralysis;* the termination in the irrecoverable cases being (4) *Alcoholic Dementia*. Some cases, mostly females, are associated with peripheral neuritis, producing the disorder known as (5) *Korssakow's disease* or the *Polyneuritic psychosis*. This syndrome is also occasionally caused by other toxic agents, such as Arsenic, Lead, Diabetes, Influenza, etc.

Physical Signs.—The patient commonly has distended venules over the face and nose, and the hands are congested. There is tremor of the tongue and lips, and twitchings of the

facial and other muscles. His articulation is difficult. The patellar reflex may be exaggerated, or it may be absent if there is neuritis of the lower extremities (Korssakow). This latter is often accompanied by pains in the calves, and tingling sensations or anæsthesia. Seizures or fits are sometimes met with, the convulsions being mostly of an epileptiform nature, so that some cases simulate General Paralysis. The pupils may be small or large and often irregular, and they react feebly to light. The patient walks with an awkward gait, the tremor, inco-ordination, or paresis showing itself also in other movements, including the handwriting. The bladder and rectum frequently require attention as the patient becomes demented.

Mental Symptoms.—The patient is confused, and shows general mental weakness and degradation. His memory fails for current events or it is perverted, and he is apt to romance and fabricate stories which he believes to be true. These pseudo-reminiscences must be looked upon as illusions of memory (paramnesia). He is untidy in his appearance, careless in manners, and loses his higher acquirements. He has general disturbance of perception, with hallucinations or illusions of the senses. The noises in the ears may be vague at first, but in time they are interpreted as "voices" that taunt or persecute the patient. These "voices" are worse at night, when he keeps up a running conversation with them. Likewise he sees strange "visions" which he connects with the "voices" of conspirators. The skin sensations are disturbed, so that many patients complain of little animals crawling about them and of electrical and mesmeric influences. Similarly, taste and smell are affected, and he is consequently suspicious about his diet. Delusions of all sorts may be present according to the emotional state of the patient. Thus, a patient may be exalted, believing himself a King or even the Deity, or he may be depressed, imagining himself the victim of the evil machinations of others. Suspicion is also an ordinary symptom of the disorder and is associated with delusions of persecution. Thus, a husband becomes suspicious of his wife's conduct and is jealous of the attentions of others, and he accuses her of unfaithfulness, or vice versa. Delusions and hallucinations are prone to lead to impulsive actions, and the patient may become

violent and suicidal. Automatic dream-states also occur. As the disease progresses, the memory becomes worse and worse, until finally the patient is quite demented, and is defective in all his habits. He is inclined to be wakeful at night. His letters and manuscripts also indicate the condition fully.

Diagnosis.—A reliable history will do much to establish a correct diagnosis. General Paralysis is the condition which has to be distinguished from it, if possible. It must be remembered that Alcoholism is sometimes a symptom of General Paralysis and other insanities, and that a history of Syphilis does not necessarily infer the supervention of General Paralysis. Active hallucinations, sensory disturbances, insomnia at night, and a terrified state favour the diagnosis of Alcoholic insanity. Tremors, paralysis and convulsions occur in both. The Argyll-Robertson pupil points to General Paralysis as does also a greasy skin and a hesitating slurring speech. Letters are left out in words that the patient writes more often in General Paralysis than in Alcoholic insanity. Lumbar puncture may be resorted to for the purpose of clearing up a doubtful case.

Prognosis.—This, in a recent case, is as a rule good for the immediate attack, from which the patient recovers perhaps with a little defect of memory, but he is apt to drink again and to relapse into a state of insanity. It is surprising to see how some cases, even with apparent Dementia and organic paralysis, improve in a few months, so that the practitioner should be careful in giving a bad prognosis. "To the Alcoholic all things are possible" (Savage). Some cases die from convulsions or heart-failure. The Pseudo-Paranoiac cases improve under care, but always relapse when they return home without supervision.

Pathology.—Alcohol in these cases seems to have a special affinity for the nervous system. Rarely is the liver or a kidney found to be cirrhotic or enlarged. The cortex cerebri and the peripheral nerves are affected according to their individual resisting powers. This is due to the poison of alcohol itself, but also to a process of auto-intoxication from perverted metabolism. In recent cases there is little abnormal to be found in the brain, but in chronic patients the changes usually observed in Dementia are to be seen in the nervous

elements, the vessels, and the neuroglia. The convolutions are atrophied. The dura mater and pia are thickened, the arachnoid showing milky patches. The ventricles are dilated. The vessels are thickened, the coats being atheromatous and fatty, and the minute arterioles have aneurysmal swellings. The perivascular spaces are distended with cells. The neuroglia is increased and spider cells are abundant. The nerve cells are disorganised and shrunken, some of the motor cells being completely atrophied, their processes having disappeared. There is not, however, so profound or general a degenerative change as is the case in General Paralysis.

Treatment.—No good will be done in a pronounced case of Chronic Alcoholism or Alcoholic insanity until the patient is sent from home. Sometimes the relations are most anxious to avoid an asylum or an inebriate home, and in such a case, a suite of rooms may be set apart and a staff of nurses engaged to treat the patient. This is not satisfactory unless means are ample, and there is a garden for exercise. Care should be taken that the nurses are absolutely trustworthy, that they do not accept bribes, and that the orders from the visiting medical attendant are carried out. The alcohol must be withdrawn, and it is usually best to carry this out forthwith. The patient will be worse for a few days, retching and vomiting, and will be more tremulous. The bowels must be attended to, and the bladder evacuated. The pulse should be carefully watched, and if the patient shows signs of collapse, a little alcohol may be given at night-time for a few days. The patient should be fed up as much as possible—milk, custards and soups are all that he will probably take. Refusal of food may require tube feeding. For the sleeplessness, a dose of Chloral and Bromide may be given, or at the onset when severe depression is present, a dose of alcohol in milk may be given. Quinine and Iron should be administered during convalescence, and the patient be allowed out in the fresh air under close supervision. The treatment of Acute Confusional insanity has already been dealt with (*vide* p. 129), and for the management of other Alcoholic conditions, reference may be made to the Chapter on General Treatment.

4. Dipsomania.—This is a variety of Impulsive Insanity (Psychasthenia) in which the impulse or craving to drink in

excess occurs in cycles, closely resembling those in Periodic insanity. The condition is therefore quite different from Drunkenness, which is caused by alcohol; in Dipsomania the craving for drink is symptomatic of the disorder, and sometimes in the intervals between the attacks the patient has a distinct aversion for alcohol. The patient may strive to overcome his paroxysmal weakness, but is impelled thereto by a depressing influence that his weakened will-power is unable to resist. He becomes fretful and irritable, unable to take his food or to sleep naturally. He often seeks protection between the attacks, or at the first sign of an impending bout. When once the patient tastes alcohol, he drinks to excess until the bout is over, during which also he may develop Delirium Tremens, as a complication.

Treatment.—This can sometimes be managed in private care, but is best carried out in an asylum or in an inebriates' retreat; the procedure for admission into the latter is mentioned on p. 278. Alcohol should be cut off promptly, as a rule, but gradually in a few cases in which the general health is seriously impaired. The patient needs abundant nourishment and good nursing. A bitter tonic such as Quinine should be given as the patient's health is restored. A certain class of patient is benefited by Hypnotism; the suggestions being continued over a prolonged time to prevent relapse. Many so-called "drink cures" are composed of innocuous agents and their influence is due to Suggestion.

MORPHINISM

Morphinism in certain neuropathic individuals may be contracted after one or two injections. Ordinary people, however, must have been subject to its influence for some weeks before a craving becomes established. It behoves medical men to be cautious in ordering this sedative and no patient should be entrusted with a syringe for self-use. Most cases occur amongst doctors and nurses, of a neurotic type. It is probable that the expense of the drug fortunately checks its abuse amongst the lower classes. The habit is mostly derived from the continual use of the hypodermic syringe,

but it may result also from the abuse of suppositories, pills, and medicines containing Morphia or Opium, and from smoking or eating Opium. A patient is given the narcotic to produce sleep or to allay facial neuralgia, sciatica, etc., and its administration is repeated. He seems to require increasingly larger doses to produce the same effect, whilst the after-results of depression and lassitude induce in him a desire for the drug a few hours after its pleasurable action has worn off. It produces a quiescent and happy feeling and increases the power of imagination, so that work, both mental and physical, is apparently more easily executed. A patient comes for advice, or is brought by his relatives for treatment, because his physical health becomes affected by the large doses that are requisite for him to enable him to carry out his work at all. He is dyspeptic and constipated, disinclined for food and becomes frightened as to what is going to happen. He finds he does not perform his duties as well as he did, and that his moral nature is deteriorating. Although some persons can take Morphia or Opium for years without pronounced mental symptoms, the majority become chronically confused, indolent and incapacitated. The memory fails and the emotional state varies from excitement to depression. There may be sensory effects, but these are more usual if the patient is also addicted to Alcohol or Cocaine. Patients become untruthful and are liable to make false accusations against others. The general health is disturbed, the secretions being dried up except the sweat, which is increased. The appetite is bad and constipation is frequent, the pupils are small, the blood is anæmic and the pulse is poor. The sexual functions are in abeyance. The symptoms of sudden abstinence from the drug in the case of an *habitué* are those of intoxication by an auto-antidote. Vomiting and diarrhœa set in and tenesmus is common. The cardiac action is weak and the patient may become collapsed. His special senses are all hyperæsthetic. He feels cold and has to have extra blankets on his bed. He is troubled also with strong sexual desire and painful erections. He complains of neuralgic pains and muscular cramps. He becomes the victim of absolute insomnia, and is deeply depressed and miserable, pacing about restlessly, and asking to be relieved by a last injection. The

severity of the abstinence symptoms lasts a few days and makes the cure of the habit difficult. About 10 % only of the cases recover and do not relapse.

Treatment.—There are two remedial methods : the sudden or rapid withdrawal of the poison, and the gradual method. Each case must be treated on its own merits, but the sudden or rapid method is far kinder in the end, and should always be adopted if the patient is under absolute control in an institution or in an inebriate home. Many cases, however, have to be managed at home or in nursing homes, and then the gradual method may have to be used. Thoroughly trustworthy nurses must be engaged, and the patient should be put to bed and be carefully watched. No reliance can be placed on his word as to whether he is taking the drug or not. A secret store may be utilised and he will practise any deception to get at it. Many patients are treated by withdrawing the drug gradually, *e. g.* a patient, habitually taking Morphia gr. ij for each injection, should be given gr. j, then gr. $\frac{1}{2}$, gr. $\frac{1}{4}$, gr. $\frac{1}{8}$, and then it should be discontinued; good results are also obtained by giving the Morphia by suppository gr. $\frac{1}{2}$ and gr. $\frac{1}{4}$ before its absolute withdrawal from the system. The patient is sure to smoke cigarettes all day during the treatment; some alcohol may be allowed, and is indeed indicated in cases of severe collapse. It may even be necessary in rare cases, to give a minute dose of Morphia by injection, to tide him over for a time if the cardiac action is failing. The sickness and diarrhœa require treatment by Sodium Bicarbonate and stomachics, and Bromides should be given to allay the restlessness. Sleep should be promoted by giving a hypnotic at night-time, such as Chloral, Trional, or Paraldehyde and changing it each night. It is most inadvisable ever to prescribe Cocaine. The relief gained therefrom is only at the expense of causing a second and worse drug habit. Hot bottles and good nursing are necessary, also careful and regular feeding with soups and egg and milk until the acute symptoms subside. The patient should be kept under supervision for at least three months in order to restore the nervous system.

COCAINISM

The habit of taking Cocaine occurs mostly in two classes of people. Firstly, in those who have had slight operations, or throat or nose troubles, and who have used the drug to allay irritation. Secondly, in Morphia-takers who find that a combination of these two narcotics produce further exhilarating effects. As with Morphia, this drug is usually taken by subcutaneous injection but occasionally as snuff. It destroys the appetite for food, the patient loses weight, looks pale and ill. The eyes are sunken and the pupils dilated. He relies on the drug to give him comfort and to obtain sleep. It causes excitement with a feeling of vigour. He becomes talkative and brilliant, the association of ideas being hyperactive. As the effect of the drug passes off, symptoms of abstinence appear from auto-intoxication by the natural antidote. The patient feels utterly miserable, he is restless and he becomes faint. He is liable to formication or other tactile disturbances. He also becomes subject to visual hallucinations. The memory is affected, and delusions of suspicion or persecution may arise, so that a patient makes wild accusations against his family or others, and he may become dangerous. Cocaine has a far more damaging effect on the mental constitution than has Morphia, and more cases have to be certified as insane. The symptoms of abstinence are not so alarming, but when recovery has taken place, the chance of relapse is more probable.

Treatment.—This is in most respects similar to Morphinism, with which, moreover, it is generally associated, but it is more intractable. There is not so much danger of collapse in suddenly withdrawing the drug in pure cases of Cocainism, but the presence of delusions usually renders certification and asylum care necessary. Strychnine is useful as a tonic during convalescence.

OTHER INTOXICATIONS

Chloralism is now and then met with, the drug having been taken nightly by a patient for insomnia in increasing doses over a prolonged period. As with Morphia and Cocaine,

abstinence symptoms are produced by certain anti-bodies, and a double intoxication takes place when large doses are taken, so that definite mental disorder results. This may take the form of excitement or depression, and both visual and aural hallucinations are common. There is also a state of Delirium Tremens produced in some cases, analogous to that which occurs from Alcohol.

As to treatment, the drug must be withdrawn, and this is usually safely carried out by a rapid method.

Belladonna (*and Atropine*) account for some cases of mental disorder due to poison by this drug. Children, and sometimes adults, eat the berries of the Deadly Nightshade in mistake for ordinary Blackberries. The symptoms are Delirium with visual hallucinations and great restlessness. There is an inclination for stripping off clothing, picking at imaginary threads, and other such movements. Dryness of the throat is usual, the pupils are unduly dilated, and the accommodation is paralysed.

The treatment consists of washing out the stomach, and, as a rule, recovery takes place in a few days. Some authorities recommend Morphia or Pilocarpine as antidotes in severe cases.

Cannabis Indica, or Indian hemp, is taken in the form of Hashish by natives in the East to produce pleasurable excitement. Active hallucinations of all the senses occur, including the sexual sensations. In chronic *habitués*, exaltation of memory and imagination are produced, with delusions of grandeur or persecution, and a general moral deterioration.

As to treatment, patients need asylum care, and even then their recovery as a rule is only temporary.

Lead causes Confusional insanity, and the effects of the poison are largely due to renal insufficiency; hallucinations are prominent, and convulsive seizures may occur. The blue line on the gums, colic and other physical signs should enable a diagnosis to be made from General Paralysis. The majority of cases recover under suitable treatment.

Salicylates and allied drugs sometimes cause Delirium, which may develop into a transient attack of excitement.

Bromides, when long continued in large doses, produce a condition of lethargy and stupor with muscular incoordination.

Sulphonal, Paraldehyde, and other sedatives likewise cause toxic effects when injudiciously taken. The former sometimes leads to hæmatoporphyrinuria with fatal results.

Chloroform, Ether, and other stimulants, taken by inhalation or otherwise, occasionally cause a drug habit to be formed and lead to moral deterioration.

CHAPTER XVI

CHILDBIRTH AND INSANITY

Reproduction entails a stress on the female sex from which the opposite sex is immune. There is, however, as a rule an adaptation of the general health of the parturient mother in the natural state which, with the hopeful anticipation in store, happily renders this period one less susceptible to a mental breakdown than is generally supposed. With the spread of civilisation, however, the troubles of childbirth increase, and many women become mentally disordered both before and after labour, and their attacks are mostly coloured by the physiological process which they are undergoing. There is no definite type of mental disorder which can be described as puerperal, but Acute Confusional insanity is most usual; certain connecting links must, however, be mentioned which are useful to the clinical physician.

It is estimated that about $7\frac{1}{2}$ % of insanity in women occurs in connexion with childbirth; viz. 1 % during pregnancy, 5 % after delivery and $1\frac{1}{2}$ % during lactation.

Inheritance has its rôle in puerperal patients to the extent of 40 % of cases, and sometimes there is a history of previous attacks. It is rather more common in apprehensive primiparæ after the age of thirty. Illegitimacy is a potent factor, as is also the desertion or loss of the husband. Prolonged labour is more likely to be a cause, by its exhausting effect, than easy delivery by forceps skilfully performed with, or without, an anæsthetic. About half the puerperal cases may be attributed to septic infection and auto-intoxication. Fright or shock also occurs in the history of some cases. Mental disorder may occur (1) during pregnancy; (2) within a short time of delivery; (3) during lactation.

1. The Insanity of Pregnancy may be an exaggera-

tion of the morbid longings and caprices that often occur at this period. Moral perversion shows itself sometimes in untruthfulness and pilfering. It is associated with sleeplessness, morbid brooding, and depression, as seen in Maniacal-Depressive insanity. Delusions frequently develop with aversion towards the husband, and the patient may become suicidal. Mental symptoms occurring before the fourth month of pregnancy are of better omen than those coming on in the later months. In the former case, recovery frequently takes place in a few weeks, whereas in the latter instance, the case generally continues and becomes one of puerperal insanity, but sometimes recovery occurs when the child is born. The induction of premature labour or abortion is usually not warranted, as definite mental improvement is not commonly occasioned thereby, but it may be necessary in certain cases where the patient's life is endangered. It would also appear sometimes to give a better chance for the life of the child.

2. Puerperal Insanity.—Acute Confusional rather than Maniacal-Depressive insanity is what is most common, and Katatonic symptoms are sometimes present. Dementia Præcox, and even General Paralysis, have been known to appear during pregnancy or just after childbirth. A transitory delirium or an acute excitement sometimes also occurs at the time of delivery which passes off a few hours later; the patient may be delivered of her child in such a state and have no recollection thereof afterwards. In most cases, the first indications of a mental breakdown are manifested on the fourth or fifth day. It has frequently not been possible to keep the patient as quiet as usual after delivery. She becomes sleepless and fretful. She does not show natural affection for the child, the presence of her husband is a source of irritation to her, and she is indifferent to her other relations. She does not take her food so willingly, and begins to argue and quarrel with the nurse. She has spectres before her eyes or misinterprets noises that she hears. She becomes irritable and confused, her memory fails, and she develops morbid fears, and apprehensions. The patient is flushed, and has an anxious look, and she has perhaps a slight rise of temperature, a rapid pulse, some headache, a dry tongue and a hot skin. The lochia may be normal, or they may

have stopped. The breasts may give trouble, and the secretion of milk gradually ceases. The bowels are costive, and the urine is sometimes albuminous. The patient becomes restless and impulsive and loses all self-control. Eroticism is frequently a marked feature. All food may be refused; the patient becomes incoherent and acutely excited, presenting a wild and unkempt appearance. Delusions are frequent but fleeting, while hallucinations are not uncommon. Very often the morbid ideas are of a religiously exalted character, and she imagines she is the Virgin Mary, or a persecutory type may prevail with hatred towards her husband. There is often change of identity, and she calls others by false names and loses all sense of orientation. Remissions sometimes occur and her attention can be engaged for a time, only to relapse, until recovery takes place at the end of three to nine months. A few patients die of exhaustion, whilst others pass into a stage of automatic obedience, and become demented. Cases arising from three to six weeks after delivery are usually depressed, with delusions of unworthiness of a religious nature, and with tendencies to suicide.

3. Lactational Insanity.—This comprises mental disorder which develops from six weeks after confinement; it usually occurs in the later period of suckling of the child, and sometimes it follows immediately upon weaning. Prolonged lactation causes anæmia and exhaustion, and is commoner amongst the poorer classes than in the well-to-do, and is no doubt prompted by the hope of preventing early conception. The patient becomes restless and sleepless, and if mental disorder supervenes, it is generally of the nature of a subacute depressed form of Confusional insanity, with ideas of unworthiness. Delusions are developed, which often affect the husband and child. Sometimes all food is refused. There may be paroxysmal excitement, and hallucinations may be present. The patient looks pale and ill, and complains of various abnormal sensations. There is a special tendency also to lung complications.

Prognosis.—Insanity in connexion with childbirth is decidedly favourable in all three kinds. About 75 % of the cases recover. In a puerperal case, the sooner the attack occurs after delivery and the more acute the symptoms, the

better chance there is of complete recovery. A certain proportion of cases, however, end fatally (10 %), others become Stuporous and some of these eventuate in Dementia.

Treatment.—In the poorer classes removal to an asylum is the safest course, but when means are sufficient it is sometimes judicious to avoid certification when possible. Specially trained nurses must be engaged, and the patient should be frequently visited by the medical attendant. In post-partum cases anti-streptococcic injections and vaginal douches may be indicated and the breasts must be carefully tended. The bladder and bowels should receive due attention. Refusal of food may require the use of the nasal tube, and the danger of suicide must be obviated by close supervision and the removal of all possible risks. The child must be separated from the mother at all costs and the husband be kept away. The special lines of treatment will depend on the kind of insanity that affects the patient, to which the student's attention is directed elsewhere. Caution must be used in giving sedatives to a pregnant patient so that the condition of the infant be not imperilled. Lactational cases especially require abundant feeding and the administration of Iron, Phosphates and other tonics. In the mild cases of the insanity of pregnancy, change of air and cheerful surroundings often suffice, with the use of baths and tonics, the state of the bowels being properly regulated. In the Stupor that so often supervenes in a case of puerperal insanity, a course of Thyroid should be tried, to stay the tendency to Dementia. The patient should be kept as much as possible in the open air, with abundance of nutritious food, and a tonic may be prescribed; possibly some alcohol in the form of stout may also be required. The patient should not return home until the menses have become re-established, and cohabitation should not be resumed for some months afterwards.

INSANITY AT THE EPOCHS OF LIFE

Mental diseases vary in some of their characteristics according to the age and sex of the patient; especially is a variation to be noted at the chief epochs of life. It is, therefore, useful for the student to appreciate and learn what are the main features of mental disorder at these stages of

life, and how far such disorder is either caused, or partly caused, by such epochs, or in what way insanity is likely to be modified or coloured by the physiological changes of the body and mind that are indicative of these times of life—the periods of Puberty, Adolescence, the Climacteric, and Senility.

Puberty.—In ordinary individuals of Western nations this is reached between the ages of twelve and fifteen; any delay may be regarded as a sign of deficient vitality, and when it occurs prematurely it may be looked upon as unhealthy precocity, which frequently forebodes evil. The changes are largely the development of the sexual characteristics including the onset of menstruation in females. But these are accompanied by other bodily and mental developments. It is all-important that at this period educational methods should be specially regulated, and that there should be no forcing of mental growth; any undue mental energy should be held in check, and the physique and nutrition should receive every care and attention. The brain at this time receives novel impressions from the reproductive organs which are undergoing rapid changes and growth. From these impressions are derived organic cravings, from which spring the germs of the higher emotions of modesty and love. In the fresh acquisition of reflexes it is not surprising that, in our modern civilisation, with the restraints it imposes, unstable brains break down as frequently as they do. Nature, however, has endowed the race with potentialities to overcome the incidence of Puberty, the first strain in the life of an individual, with comparative freedom from ills. Defective heredity, when it shows its harmful influence, does so with greatest surety earlier in life by the stunting of intelligence, as seen in the various forms of Idiocy and Imbecility. Epilepsy is prone to develop, but Insanity for the most part skips the period of Puberty. Attacks of Melancholia of the Maniacal-Depressive group do now and then occur in school-girls and boys, but they usually recover in a short while. Delirious excitement or Mania of a passing nature may be displayed, or simply extreme restlessness, aggressiveness with unfounded dislikes, and noisy singing. These disorders indicate a morbid strain, and relapses are to be expected in the future unless

prophylactic measures are adopted. During childhood, night terrors and convulsions occur in those of neurotic stock; and stammering and somnambulism develop as their education progresses. It is not altogether uncommon for slight nervous disturbances to be revealed during the stress of Puberty, but it is rare that a condition of insanity is seen, and then the family history is always bad.

Adolescence.—The twenty-first birthday has been fixed by law as the time when a youth blossoms forth as a man, and a girl becomes a woman. This is largely for the sake of the transmission of property, and may be regarded as the mid-period of Adolescence. Although the reproductive function begins at puberty, it cannot be said to have reached its proper development until the individual is fully mature, the average age being in this country twenty-five for a man, and twenty-three for a woman. At these ages the sexual divergence is greatest, the bones are consolidated, and the body assumes its perfect form. The physiological mental changes are undoubtedly greater in the later period of Adolescence than in the years following on Puberty. The actions and purposes are different. The pastimes of boyhood are transformed into serious strivings for the future, and ideas of morality and duty obtrude themselves, whilst the emotion of love becomes less fickle and more enduring. The sexual passion now exercises its full sway, and demands the restraining action of the higher nerve centres for its effectual control. Its transference into properly directed energies is the transmutation to be aimed at. Yet many young men fall from the path of virtue, and habits of self-abuse or illicit gratification are common. At this time also criminality and immorality become manifest, and in certain cases puzzle the lawyer and physician alike. The mental diseases that occur during this epoch are mostly Maniacal-Depressive insanity (especially Mania) and Dementia Præcox, but Acute Delirious Mania, Confusional insanity, Epilepsy, Hysteria and Neurasthenia are also common. Patients are liable to short and sharp attacks, and they sometimes recover quickly, but tend to relapse in the future. The sexual tinge in these cases is always marked, and there is usually a history of insanity in the family.

The Climacteric.—The suspension of the function of the ovaries, which occurs gradually between the ages of forty-five and fifty, produces various nervous symptoms in every woman, such as flushings and sensations, and has peculiar mental concomitants. There is a lack of energy with depression of spirits, and occasional weepings. The patient is aware of an insidious change in her nature, and life in general seems more prosaic. The facial expression and bodily form undergo change, and sexual characteristics tend to disappear. In men a corresponding decline in sexual function occurs a decade later, viz. between fifty-five and sixty. Spontaneity of action declines, the man tends to lose interest in life, he becomes less active, and retires from his usual occupation. The procreative function may, however, continue in a weakened degree even unto old age in some men. When serious mental trouble occurs at this epoch, it is nearly always a so-called involutional Melancholia closely allied to that of Maniacal-Depressive insanity. In men, fears of financial disaster, and hypochondriacal ideas develop. A suicidal tendency may be present, but it is rarely of grave account owing to the lack of courage that is apt to display itself at this time of life. The course of insanity is usually prolonged at the menopause. The prognosis in mental disorder at this time of life is better in women than in men, many of whom become chronic, and some of whom die.

Senility.—Old age creeps on with subtlety, following on the decline of life at the climacteric. Threescore years and ten has long been regarded as the span of human life, but this bids fair to be outreached in the future. A man has been said to be as old as his arteries, and there is much truth in the statement, for the condition of the circulation is some index of the nutrition of the brain, and of the person's vitality in general. In physiological senile decay there is an atrophy of the body, leaving the face wrinkled, and a tendency to hernia. The bones become brittle, a trip up on the carpet being sufficient to cause an intra-capsular fracture of the neck of the femur. The muscles are flabby, and co-ordination of movements is defective. The special senses become blunted, and cataract is common. Failure of memory begins to show itself, especially in the remembrance of proper names. Attention flags, and the emotions of the old man are shallow or non-

existent. He talks in a monotone and repeats old stories. He lives in the past and has difficulty in adapting himself to fresh conditions. His actions are slow. He is apt to be suspicious of others. He is hypochondriacal about his health and is unduly punctilious as to the state of his bowels. The mental affection that is most characteristic in old age is Senile Dementia (*vide* p. 167), but Organic Dementia (Paralytic insanity) and Epilepsy occasionally occur. Maniacal-Depressive insanity (Mania and Melancholia) affects persons at this time of life, and also Confusional and Paranoiac insanity, the course of which it is difficult to forecast. These cases sometimes end in recovery or partial cure. A history of neuropathic taint is often absent. The patient has sometimes indulged largely in alcohol in earlier life. At this epoch also the sexual instinct occasionally runs riot, this being generally due to the irritation of an enlarged prostate. An old man is thus sometimes liable to indecent conduct, or he makes undesirable attachments, as a result of loss of higher control. Senile cases are apt to be wet and dirty in their habits, but many can be managed at home with trained nurses, with the help of the calming influence of Sulphonal or Veronal. When, however, patients are very noisy or restless at night, which often occurs, an institution is generally the best resort. Refusal of food should be dealt with by coaxing and persuasive measures, rather than by forcible tube-feeding.

CHAPTER XVII

EPILEPSY AND INSANITY

The connexion between Epilepsy and Insanity is a close one. To say that idiopathic epilepsy causes insanity, however, is not so accurate as the statement that the two affections are dependent on allied conditions of the tissue of the cortex cerebri and its metabolism. It might equally be said that insanity causes epilepsy in some cases, for a small proportion of chronic dements first develop fits towards the end of their lives. The association is seen at all ages.

It has been computed that epilepsy affects the general population to the extent of about $\frac{1}{6}$ %, and that 75 % of epileptics give indications of that disease before the age of twenty; the earlier it occurs, the more likely is mental aberration to arise.

When epilepsy starts in early childhood, before the age of seven, the underlying brain constitution is such that mental evolution is not likely to proceed far, and the patient will become an idiot or imbecile. Epilepsy first manifesting itself during or after adolescence may, or may not, affect the mental powers of the patient, according to the type of the disorder. An occasional epileptic attack is indeed compatible with intellectual greatness, as the records of history demonstrate, for Napoleon, Julius Cæsar and others have been authentically credited as having been subject to sporadic seizures. It is, however, doubtful whether such sporadic seizures should be regarded as genuine epilepsy. Many epileptics pass through life without serious mental deterioration, although they may have one or two fits a week, by day or during sleep, whilst other persons become epileptic later in life and show signs of chronic mental disorder. Usually, however, the epilepsy has begun in early life and has been of long standing. Severity of the convulsions is not so much

an important indication of the nerve weakness as the frequency of recurrence. The admixture of petit mal with ordinary convulsions is the kind of epilepsy that is most prone to produce mental symptoms necessitating measures being taken to place the patient under care. About 15 % of epileptics require certification as insane.

Hereditary predisposition is generally marked, Epilepsy, Insanity, and Alcoholism being common in the parents, but a blow on the head or an attack of Scarlet fever or Influenza may sometimes be the exciting element which lights up the disorder. Stigmata of degeneracy are also apt to occur in the patient, who may from childhood have shown a nervous temperament with emotionalism and loss of self-control. Both sexes are affected alike. The sexual instinct in epileptics lacks proper control, and masturbation is a common symptom. The patient is frequently selfish, morbidly religious and self-righteous, whilst he shows little consideration for others. When he becomes insane all these natural points are accentuated, and he is liable to become one of the most dangerous patients to deal with, and even if after some years Dementia ensues, he is not to be trusted.

Grand Mal, Ordinary, or Major Epilepsy is manifested by a fit, which may be ushered in by an aura or warning lasting from a few seconds to two or three minutes. The aura is usually a sensation in the epigastric region, but it may arise from the visual or other special senses, or it may be motor in character, consisting of a definite series of movements prior to the advent of unconsciousness. Patients usually fall in a certain direction, which is repeated in future fits. The tonic spasm lasts about half a minute. This may be accompanied by a cry and is followed by clonic convulsions lasting a minute or two, in which the tongue may be bitten and the bladder evacuated. This is followed by stertorous breathing and other signs of coma, and the patient usually sleeps for a quarter of an hour or so before regaining consciousness.

Status Epilepticus, in which there is a succession of fits without intermission, occurs in about 5 % of cases. It is always associated with pyrexia, and is of grave omen from the exhaustion entailed.

Petit Mal, or Minor Epilepsy, is often spoken of by the

patient as a " faint " or as a " sensation." He may experience an aura, then he momentarily loses consciousness, and becomes pallid. He may abruptly stop in conversation, or become giddy and stumble or fall, but he has no spasm or convulsions. The nervous discharge in these cases of minor epilepsy is mostly confined to the association areas, and does not affect the motor cortex.

The mental disturbances associated with epilepsy are usually classed according to their occurrence shortly before or after a fit: (1) *Pre-paroxysmal* and (2) *Post-paroxysmal* epileptic insanity, or when no fit is discernible in a patient believed to be an epileptic, the mental disorders are then usually called (3) *Epileptic Equivalents* or *Masked Epilepsy*, *e.g.* excitement, automatism, etc. Lastly, there is the continuous state of (4) *Epileptic Dementia* and (5) *Epileptic Idiocy and Imbecility.*

1. Pre-paroxysmal Epileptic Insanity.—This is marked by a gradual change in the patient's disposition, a day or two before the expected fit. He is moody, more ill-tempered and impulsive than usual, or he may become delusional, or suddenly excited, and dangerous. When the fit takes place, the patient frequently wakes up from it in his habitual mental state, and remains the same until the period immediately before a succeeding fit.

2. Post-paroxysmal Epileptic Insanity.—Some epileptics, after a fit, develop an attack of acute excitement mostly of a transient nature, lasting a day or two; or they may become depressed or stuporous for a time. Others develop delusions of suspicion and persecution. What is most important from a medico-legal point of view is that the patient may after a fit pass into a state of Post-epileptic Automatism. This automatism is more likely to happen after an attack of petit mal and consists of conduct which has the appearance of being purposive, but of which the patient is totally or partially unconscious. It often consists of actions which are a caricature of normal actions. Thus a patient may indecently expose himself or commit some criminal act in a state of irresponsibility. This condition usually lasts only for a few minutes, but it may continue for hours, or even days, after which the patient regains his normal self.

3. Epileptic Equivalents.—These are also known as psychic or *Masked Epilepsy* (Epilepsie Larvée), and consist of various mental disorders in epileptics in which the attacks are unconnected with any convulsion or petit mal. Thus, in place of a fit, a patient may have a violent attack of transitory excitement, the most acute form being designated *Epileptic Furor*, the duration of which may be from a few hours to a few days. Similarly, a patient may become depressed with delusions for a time, or have an attack of Delirium, Confusion, or Stupor. *Automatism* is also an important equivalent to be mentioned, with more or less marked loss of memory, and change of personality or Double Consciousness. Patients take to irresistible flight, or make violent attacks, and even take long journeys in a state of automatism before resuming normal consciousness. The recovery may be gradual or sudden, and it occurs sometimes after sleep.

4. Epileptic Dementia.—From 10 to 15 % of patients in asylums are Epileptic, the majority being more or less demented. They are usually of low type, deceitful, morose and querulous; outbursts of excitement are frequent, and they are degraded in their habits. Their physiognomy is characteristic. Cicatrices may be present on their heads from injuries in past fits.

5. Epileptic Idiocy and Imbecility.—This is mentioned in the Chapter on Amentia (*vide* p. 142).

Diagnosis.—The seizures of General Paralysis and of Organic Brain Disease may be mistaken for idiopathic Epilepsy, and a careful physical examination must be made to dissociate the different conditions. Hysteria must be distinguished in cases occurring early in life; the character of the fit, the emotional display, and general suggestibility usually enable one to arrive at a correct diagnosis. Petit mal must be distinguished from Cardiac faints, and from the Vertigo of dyspepsia and cerebral congestion.

Prognosis.—This is more favourable in major than in minor epilepsy, and in attacks that are confined to the daytime, or that occur only during sleep. The earlier in life epilepsy develops the worse is the prognosis, which is also rendered unfavourable by a history of cerebral injury, and by the advent of Status Epilepticus. Mental disorder is most likely to follow in cases of frequent recurrence of

attacks of petit mal with, or without, the addition of major epilepsy.

Pathology.—The seat of the disorder in epilepsy is in the highest regions of the cortex cerebri, the neurons of which are in an irritable and unstable state and discharge explosively. Scars are sometimes seen on the head from falls, and the calvarium is often much thickened. As has already been mentioned, stigmata of degeneration are often present, and the convolutions of the brain have been described as altered in pattern, or undeveloped in some cases. Various changes of

Fig. 35.—Scars in epilepsy.

a focal nature, blood-clots, degenerated nerve cells, and neuroglial hypertrophy, are found at times, the most prominent being a sclerosis of the Cornu Ammonis. These changes, however, by some observers are regarded as the result rather than the cause of epilepsy. That the convulsions are aggravated by, or, are even due to, toxins in the blood as a result of defective metabolism of the nervous system or of their absorption from the gastro-intestinal tract, is a theory which is gaining acceptance. The chief morbid product found in the blood before and during a paroxysm is ammonium carbamate. The toxicity of the virus is increased accordingly after a fit. As convulsions can be artificially produced by

pressure on the carotid arteries, it has been suggested that the vasomotor system plays an important part in epilepsy. It may be that the toxins cause a constriction of vessels in certain cortical areas, with or without small thromboses, inducing a sudden discharge of nervous energy, with the production of convulsions.

Treatment.—This varies with the individual mental disorder that the patient suffers from. An outbreak of acute excitement may require treatment by seclusion, or the hypodermic injection of Hyoscine Hydrobromate gr. $\frac{1}{75}$. Active supervision is required, both by night as well as by day, for those epileptics who have suicidal impulses, whilst sufficient attendants must be engaged for a patient with homicidal tendencies. All epileptics require watching to keep them out of danger, in case they fall. The fireplaces should have guards, and stairs should be specially railed. Bromides are still the most effectual means of combating the disease, but they must be judiciously administered over a period of two to three years in order to obtain permanent satisfactory results. A good mixture consists of Potass. Sod. and Ammon. Bromid āā gr. x, Sod. Sulphat gr. xx, Aq. Menth. Pip. ℥j nocte maneque, the dose being regulated according to the case. Liq. Arsenicalis ♏ ij may be added to each dose if acne spots or other symptoms of Bromism appear. The bowels must never be allowed to become constipated. As a rule, only in confirmed epileptics will hopeful results be found wanting from the use of Bromides. Should, however, decided improvement not be forthcoming, Borax gr. v to gr. xv should be added to the Bromides. Amongst other drugs that have been said to have done good are: Tinct. Belladonna, Oxide or Valerianate of Zinc, and Opium. Zinc preparations particularly are beneficial in petit mal. Opium may be tried in some early cases by giving the Extract, gr. $\frac{1}{2}$ in pill, twice a day for six weeks, and then continuing with large doses of the Bromides, which in the course of time should be reduced gradually.

A careful examination should be made for any source of peripheral irritation, indigestion, eye-strain, etc. Any suspicion of Syphilis should be cleared up by Salvarsan or a course of Mercury. A localising sign may lead to the possibility of trephining, to relieve pressure.

A fit may sometimes be cut short by the inhalation of Amyl Nitrite, or by counter-irritation at the site of an aura, *e. g.* a strap round an arm, etc. This can only be regarded as palliative, but every fit that is prevented tends to break the convulsive habit. Status Epilepticus is best relieved by a rectal injection of Chloral Hydrate gr., xx, with, or without, a hypodermic injection of Morphia, gr. $\frac{1}{4}$. The diet for an epileptic should be plain, he should eat sparingly of meat and take but little salt. Alcohol should be absolutely forbidden, and smoking only be allowed in moderation. The patient should live a quiet and regular life, free from social excitements. Occupation of an outdoor character is beneficial, as is carried out in the Colony system. There is reason to think that about 10 % of epileptics are curable under careful management, if treated early. The associated mental disorders may likewise improve, except in the case of the epileptic dement, whose condition is hopeless as regards recovery.

CHAPTER XVIII

HYSTERIA AND INSANITY

Hysteria has been designated a disorder of the subconscious mind; it is a peculiar mental state in which the psychical and physical symptoms are largely due to auto-suggestion. When a case presents such disordered conduct as is common in insanity, the patient may require special treatment. The laity, unfortunately, are prone to use the term Hysteria to cover obvious cases of mental derangement in which no trace of the disorder has ever been present at all. Such a term leads them to think less of the family blemish and to cherish more hope of recovery. Thus, an ordinary attack of Acute Mania in a young girl is regarded as a severe attack of Hysteria, or again in the early stages of Dementia Præcox, the deranged conduct is apt to be considered as hysterical. The physician should not lend himself to such misrepresentations. Hysteria is a definite disease, which, like other nervous diseases, is closely allied to, but is distinct from, conditions underlying Insanity. The conception of the disorder as being essentially due to suggestion we owe mainly to Babinski. The doctrine of the splitting of consciousness, the result of dissociation, has also been applied to Hysteria; according to Breuer it is due to dreamlike conscious states with a narrowed associative capacity; Janet's view is that the subconscious mental life develops into a spurious second personality which the retracted conscious self is unable to control. Freud ascribes the subconscious activities of the disorder as being due to repressed complexes of a sexual nature. Hysterical subjects as a whole are uncommon in asylums. Sometimes a patient suffering from Intermittent insanity has a history of Hysteria, or gives some indication of it, during the attack, but the two conditions are for the most part distinct. If the combination

Hysterical insanity be used at all, it should be confined to those cases of grave Hysteria that require forcible feeding and control, and have the features of the disorder in an exaggerated form so that their conduct is quite deranged.

Etiology.—Hysteria is almost, but not entirely, confined to the female sex; it manifests itself most often during puberty and adolescence. At this period, the brain has an increased influx of impressions from the generative organs, but it is too much to say that these organs have always any direct etiological influence on the condition, as Freud's teaching implies. Defective heredity, and harmful nurture in early years, play the most important part in the causation of the disorder. It is frequently the outcome of children being spoilt by a want of discipline in the parents, together with irregular hours, and faulty educational methods. In predisposed individuals it may come on after some exhausting illness, or from a shock or disappointment. As a result of injury it also occurs, but it is then generally called " Traumatic Neurasthenia."

Physical Signs.—The bodily health is not, as a rule, much impaired unless persistent vomiting or refusal of food occurs. Patients usually sleep well. The tongue is clean, but there is often anorexia, or some other digestive trouble. Palpitation and irregular respiration are common, together with the feeling of suffocation (Globus Hystericus) that so many patients exhibit. Nervous sweatings are frequent, and the secretion of urine is greatly increased, especially after a convulsive fit. There are numerous sensory phenomena, *e.g.* anæsthesia, which may be local or general, or else confined to one half of the body. Various hyperæsthetic areas also occur over the ovarian regions, the spine, or the lower part of the mammæ, whilst the hip and shoulder joints may be painful and stiff, simulating the contractures of organic disease. The other special senses are also liable to affection; one nostril losing its sense of smell, one side of the tongue being devoid of taste, one eye being functionally blind, but rarely does hemianopia occur. Occasionally there is loss of the colour sense. The field of vision is invariably contracted as shown by the perimeter. The motor signs are various—paraplegia being the most common—the knee-jerks are brisk with a spurious ankle clonus, and the plantar reflex is absent. Monoplegias are almost

pathognomonic, but hemiplegia now and then occurs. Loss of voice is common, the aphonia in some instances extending to absolute mutism. Retention of urine is somewhat frequent and a "phantom tumour" is sometimes present. In addition to paralysis, there may be various spasms, tremors and irregular movements of a choreic nature.

Hysterical fits consist of general convulsions which simulate Epilepsy more or less, and sometimes even follow on an attack of petit mal, but there are certain obvious distinctions from an ordinary epileptic fit. The duration is much longer, lasting from a few minutes to half an hour or more. There is not the same loss of consciousness, and the patient falls in a place that is devoid of danger. Instinctively the eyelids are tightly closed and the eyeballs are rolled upwards. The tongue is not bitten, and the patient frequently assumes an opisthotonic state for a time.

Mental Symptoms.—Emotional instability and a craving for sympathy are the most marked mental traits in hysterical subjects. Unless there is great excitement, there is no disorder of the ideational life. Perception and memory are usually good. Patients are self-centred and they magnify every symptom out of all proportion. They only make pretence to overcome their condition of ill-health. Their will-power is weak, and they are highly suggestible through impressions that fall in with their preconceived ideas. If they are crossed or contradicted, they become morose or excited and make false statements. They are frequently worse at the menstrual periods, and may then be impulsively violent for a time, or have outbursts of uncontrollable laughter.

In order to call attention to their cases, patients will manipulate the thermometer, and otherwise simulate disease, whilst self-inflicted injuries are not uncommon. After a severe attack there may be a state of Delirium with busy hallucinations or a state of Stupor, either of which soon passes off. Memory is then impaired, or even lost. Double Consciousness occurs on rare occasions, the one personality alternating with another. Hysterical patients are wayward and erratic in their conduct. They are liable to spasms of activity, but on the whole they are indolent and self-indulgent, lacking any purpose in life.

Diagnosis.—The absence of organic disease to account for many of the symptoms largely points to Hysteria. The history of the patient, together with former attacks of a like nature, will assist the physician. The distinction from Epilepsy has already received notice.

Prognosis.—This is good in most cases, provided the friends will submit the patient to proper treatment. Relapses are, however, frequent. Cases of many years' standing rarely show any improvement, whilst a fatal issue occurs occasionally in patients who persistently refuse food.

Pathology.—But little definite is known from any histological examinations. The disturbed cerebral function may be due to an altered state of nutrition of the cortex, possibly from vasomotor spasm or paresis. Some of the visceral disorders are no doubt caused by secondary derangement of lower nerve centres. The theory of the relationship of the disorder to the sexual function has already been mentioned, and that of neuronic dissociation also.

Treatment.—Removal from home surroundings is of the first importance. The relations of the patient, who have in the past unconsciously done much to foster the condition, frequently regard the patient either as suffering from an organic disease or they treat her as a malingerer. Neither attitude is correct. Sometimes a change, with abstention from any correspondence, together with a gradual return to regular habits judiciously arranged, is all that is required. Outdoor exercise should be encouraged and the general health be improved before returning home, in order to minimise the chances of relapse. In a severe case the patient is best treated in bed with a copious milk diet; baths and massage are also to be recommended. Thereby she should put on weight. The physician should attend regularly and have a wholesome controlling influence over the patient. The idea of gradual improvement and eventual recovery should be instilled by every means of suggestion, and in this matter the nurses can materially aid in the treatment. Removal to an institution and certification may be necessary in some cases, and the issue is usually most salutary. Obstinate refusal of food must be met with forcible feeding, and the tube may be required. Medicinal measures scarcely count for much, although

the Bromides have some influence over the convulsive attacks and Valerianates occasionally do good. Alcohol in any form should be forbidden. Sometimes the question of marriage arises, when the patient recovers. It should be discouraged as a rule, for the majority are not benefited by it. Psycho-analysis has been adopted in some cases with success, by this means a hidden complex may be discovered and dispersed, and the patient be re-educated subconsciously and consciously to the normal. In any case, psychological explanations with some patients often meet with excellent results, but they must be persisted in for a considerable period of time.

NEURASTHENIA AND INSANITY

This term is also used to cover many conditions in which the essential element of this disorder is absent. Thus, obvious cases of Melancholia and Hypochondriasis often pass as Neurasthenics, and even in commencing Paranoia, Dementia Præcox, and General Paralysis, the correct diagnosis fails to be made, no doubt unintentionally as a rule, but it is not always so. The disorder is one in which the nervous system becomes morbidly fatigued from inadequate causes, and this fatigue leads to a multiplicity of symptoms. It is frequently associated with Psychasthenia. Other factors are necessary to precipitate an attack of Confusional or Exhaustion insanity in a person who is a Neurasthenic.

Etiology.—It occurs most frequently in the more civilised communities, where the competition for the prizes of life is keenest. It may be *Congenital* or *Acquired*. The former is manifested in early adult life when the individual first feels the sense of responsibility. It is more common in males than in females. The predisposition to Neurasthenia is for the most part handed down by parents who often have a history of Insanity, Alcoholism, Syphilis, or Tubercular Disease. The disorder results from the patient himself having at one time made a demand on his nervous energy by mental exertion in excess of his capacity, or from some emotional shock, or from some sexual drain, muscular fatigue, or prolonged illness whereby the processes of recuperation have been interfered

with. Traumatic Neurasthenia is a nervous disorder mostly due to suggestion and should therefore be regarded as Hysteria.

Physical Signs.—The general nutrition is somewhat affected, and the patient is anæmic. The skin is moist, and the extremities cold and clammy. Tremors are often present and the eyelids droop, or give some involuntary contraction. The pulse is small, and vasomotor disorders are frequent. The abdominal aorta pulsates through a relaxed abdominal wall. The spinal centres are hyperæsthetic. The knee-jerks are increased, and nocturnal emissions are often complained of. The urine has sometimes an excess of phosphates. The patient's aches and pains in various parts of the body, present no physical signs of disease that can be detected, and they are probably neuralgias due to reduction of nerve tension. In some instances, patients scarcely look ill at all.

Mental Symptoms.—The patient becomes hyperæsthetic, the special senses being over active. He, therefore, is worse in a bright light, he complains of all noises, and orders the ticking of clocks to be stopped. There is nothing amiss with his perception or judgment. There are no hallucinations or delusions. The patient is depressed to a certain extent, but has a proper insight into his state. He frequently is emotional and bursts into tears, or is irritable and excited. Very rarely is his conduct so much affected that certificates of insanity are requisite. The majority are for ever referring to their ailments, complaining of inability to think, and of pressure on the head, or of various symptoms referable to the eyes, the spine, and the visceral or sexual organs. They are liable to contract the bed habit as their volition is weak. They become fatigued on the least exertion, mental or bodily. Sleep is not usually much interfered with.

Diagnosis.—As has already been mentioned, Hypochondriacal Melancholia and several other conditions are frequently mistaken for Neurasthenia. It must be granted that a mixed state is often present, but the second malady must on no account be overlooked. Especially is this necessary in the recognition of early signs of General Paralysis, Cerebral Syphilis, Intra-cranial Tumours, Tabes Dorsalis, Disseminated Sclerosis, Graves's Disease, etc. A careful physical examination

is absolutely necessary in every case presenting symptoms of nervous exhaustion. Hysteria should be distinguished by its anæsthesias, its functional paralyses, and other symptoms due to auto-suggestion.

Prognosis.—This is better in the Acquired than in the Congenital cases; that is to say, a patient suffering from the result of emotional shock or of some exhausting process, will improve sooner than one in whom the whole malady is due to hereditary transmission of nerve weakness, in which any slight strain is productive of symptoms. The outlook is better also where the circumstances are easy, and where there is no struggle to maintain a position. The malady is, however, one in which relapses are common, and in later life it becomes chronic. Rarely, however, does it lead to an attack of Exhaustion insanity.

Pathology.—Nothing has been demonstrated by morbid anatomy. The nerve centres are in a condition of irritable weakness from malnutrition, probably owing to katabolic activity being in excess of anabolism.

Treatment.—Prophylaxis is of the first importance. The children of nervous parents require special upbringing. Later in life occupations should be sought in which freedom from stress and competition may be hoped for. When the symptoms of Neurasthenia are urgent, a modified rest cure is the best indication for improvement, after the method of Weir Mitchell —say, for a month or six weeks. The patient should abstain from all letter-writing, and should be placed in the care of nurses, and after a time he should be encouraged to get up, and occupy himself. Tonics and a course of feeding up, with electrical applications and massage, are productive of much good in many cases. Valerianates and other drugs are sometimes given without much benefit, but should the patient be sleepless or very restless, sedatives become necessary. The physician should endeavour to gain the confidence of his patient, and as improvement occurs, travelling is to be recommended. Outdoor pastimes should be encouraged, provided that the patient does not tax his energies too far. Some chronic cases have to live away from home surroundings and become boarders in asylums or hydropathic establishments where the hours are regular, and the general routine is beneficial to them.

PSYCHASTHENIA AND INSANITY

A certain number of persons, in whom the affecting disorder is one of uncontrollable ideas or actions, come under the observation of every physician who devotes himself to nervous and mental diseases. The patient is often painfully conscious of his state. Some idea constantly recurs, and dominates his mental being. He is beset with a certain fixed idea, which is usually accompanied by a strong emotional bias. His will-power is weakened (Abulia), he is the victim of an obsession, *i.e.* of a compulsive or imperative idea, which may be described as a mental tic, and which interferes with his mental equilibrium. Sometimes a past moral offence haunts the patient, or he may have irrepressible fears, the result of some unconscious psychic trauma. He may be the victim of indecision or doubt as to his actions, or if the idea is one which especially tends to action in which deliberation plays no part, he is said to suffer from impulses. Many come within the range of the so-called " Border-line " cases, and the sanity or insanity of the individual in question is largely dependent on the nature of the idea or action in question, and on the extent to which the will-power is genuinely impaired. The pronounced cases are sometimes termed cases of *Volitional Insanity, Obsessional Insanity, Impulsive Insanity, Hesitating Insanity, or Folie du Doute.* Psychasthenia often occurs with Neurasthenia, and is also associated with many varieties of insanity. It is a morbid exaggeration of an anomalous condition that exists in many persons who are otherwise normal, such as the involuntary repetition of certain phrases or tunes, and the liability to various habits and tricks which are difficult to overcome, but which do not interfere with their life's work. These include the various motor tics and habit spasms. Closely allied are those cases given to morbid blushing and shyness.

Etiology.—There is usually a history of family instability, and the condition is accentuated by bodily illness and any source of fatigue.

Physical Signs.—Patients are sometimes so worried that they pass sleepless nights; the appetite fails, and they lose

weight. The special senses are as a rule very alert and the deep reflexes are exaggerated.

Mental Symptoms.—The primary bases of perception, thought, memory and attention may all be normal. There is also no weakening of intellectual operations in many cases, but the association of ideas is narrowed and dominated by some outstanding idea, of which the tone of feeling is such as to prevent the transmission of the idea to other ideas, and as a consequence it constantly appears above the threshold of consciousness. The ideas that thus recur, and cause mental aberration are usually those causing a morbid feeling of apprehension or dread. Thus, there is the fear of open spaces (Agoraphobia), the fear of closed spaces (Claustrophobia), the fear of heights (Acrophobia), the fear of dirt (Mysophobia), the fear of the dark (Nyctophobia), the fear of Syphilis (Syphilophobia), the fear of infection (Nosophobia), the fear of diarrhœa (Coprophobia), the fear of travelling by train, stage fright, etc. Some patients are in a state of constant indecision, and are everlastingly re-writing their letters, or unsealing them from their envelopes to make sure of what is within. They have to reassure themselves many times over that the gas is turned off, or that the doors are bolted at night. Some patients are always in a state of perpetual doubt. They feel they come to a wrong decision about very simple questions, even as to matters of dress, which they frequently change many times a day. They have a clear insight into their state, they realise the unreasonableness of their actions, they try to restrain themselves, but experience considerable distress in their attempts. They suffer from paralysis of will-power, which the recurring obsession overmasters. Amongst those subject to morbid impulsive actions must be mentioned cases of Kleptomania—the obsession, or rather the impulse, to steal articles—theft often of a useless kind; Pyromania—to burn haystacks, etc.; Dipsomania—the recurring and overpowering desire to drink (*vide* p. 194). Sometimes patients, in whom there is no other indication of insanity, voluntarily place themselves under care for a tendency to Suicidal or to Homicidal impulses.

Diagnosis.—This presents no difficulty. There is but little emotional or intellectual disorder; the conduct of the

patient, however, is such that not infrequently certification is necessary.

Prognosis.—This depends on the length of time the patient has been allowed to drift without treatment. If a year or two have elapsed, it is more than probable that the condition is chronic, but in recent cases recovery is the rule.

Pathology.—It is suggested that a weakened state of health in a predisposed individual so disturbs the higher cortical neurons as to interfere with inhibitory action, or according to Janet as to produce "a lowering of the psychological tension." Freud's sexual theory is also applied to Psychasthenia—his belief being that the condition is due to a transference of the "affects" from morbid subconscious complexes.

Treatment.—This consists in regulating the daily life of the patient so that his attention is diverted as much as possible. If the bodily health is run down, plenty of rest should be enjoined, and he should be placed on a nutritious diet with vegetable tonics. The daily visit of the medical man has an encouraging influence over the patient, and his converse with him helps to disperse his troubles. Some anxious cases need institution care, recovery in recent attacks frequently occurring after a few months, whilst in others improvement only can be expected. Hypnotism has been vaunted by some, but its use has not proved reliable as a rule; on the other hand, many cases obtain relief by psycho-analytical methods, persistently and scientifically carried out and the patient's mind trained by re-education (*vide* p. 315). Psychological persuasion and suggestion, however, form the main sheet-anchor for the successful treatment of the disorder, a method which has been extended recently, especially by Dubois.

CHAPTER XIX

GENERAL DISEASES AND INSANITY

Insanity in every case is assumed to be dependent on physical disease or disorder, the central seat of which is located in the cortex of the brain. By mental disease is inferred bodily disease in so far as cerebral affection, functional or organic, is the substratum, even if the lesion is microscopical or is due to biochemical changes only. It remains now to consider briefly some other bodily diseases (apart from brain tumours, etc.) that clinical experience teaches us as having a special causal relationship to insanity, and to specify the types of mental disorder associated with them. It should be noted by the student, that every disease has more or less influence on the mental functions of the patient, and has, therefore, a mental aspect. Illness is a drain on the nervous system which affects the mental functions to some extent, and produces insomnia, inattention, irritability, depression, and a weakening of the higher faculties. Some of the more important correlative conditions, however, demand special notice. A distinction must also be made between affections having an etiological relationship to insanity, and those diseases that the insane are particularly liable to.

Influenza.—This is the most common infection that causes mental disturbance and post-febrile insanity. In some patients, especially young persons, a temporary Delirium may be set up during the invasion, but even after the subsidence of bodily symptoms, a general state of depression remains, sometimes with suicidal tendencies. This may culminate in an attack of Confusional insanity with intense excitement, noisiness, hallucinations, disorientation, insomnia and refusal of food; the patient, perhaps, passes into a state of

deep depression with delusions, or becomes Stuporous, before recovery takes place. The influenza bacillus has a weakening influence on the nervous system, no doubt due to toxins, and although the febrile attack may not be severe, the disease is apt to cause serious mental disturbance in unstable persons. Persons usually get well after a few months, but the continuance of hallucinations is of bad omen. Plenty of nutritious food is of paramount importance in the treatment of influenzal insanity, and sedatives should not be withheld, if insomnia persists. The patient should be kept under adequate supervision, especially in the state of severe depression that often supervenes in such a case. General Paralysis is sometimes attributed to Influenza, but the explanation is that the Influenza is only a contributory factor.

Septicæmia, Scarlet Fever, Enteric Fever, and Smallpox are infective conditions that occasionally cause a serious mental breakdown. The disorder is generally of the Confusional type when the fever subsides, but occasionally a Delirious attack occurs at the outset.

Rheumatic Fever.—In some cases, the Delirium of the fever may pass into acute excitement, and the joint affections disappear. Anti-rheumatic remedies should be persevered with. Occasionally, a change of moral disposition is to be noticed after Acute Rheumatism, without any pronounced mental symptoms at all.

Malaria causes a chronic depression in some persons, and a few cases of acute excitement have also been recorded. Quinine is in all cases indicated.

Diabetes.—Depression with apprehensiveness and irritability is usually met with. Dietetic régime almost invariably leads to improvement. Although the disease occurs in neurotic families, it is seldom that even transient glycosuria occurs in ordinary insanity.

Gout.—Irritability is generally expected in the gouty subject, and it is frequently accompanied by mental depression, especially in the mornings. Sometimes an attack of Intermittent Melancholia, or rarely one of Mania, develops, and the physical disorder ceases. Thus a metastasis occurs in this metabolic disorder, which has led to the term "Suppressed Gout." The bowels require active attention, and

the patient must be guarded from suicidal tendencies. Most cases may be regarded as hopeful.

Bright's Disease.—In Uræmic conditions, patients are in a state of mental wandering, with active hallucinations, especially of sight. They are restless and agitated, besides being liable to twitchings and convulsions. The prognosis is bad. In ordinary cases of high blood pressure associated with albumen and casts in the urine, there is chronic depression, which treatment by saline purges alleviates.

Syphilis.—The poison of this specific disease, as regards the mental functions, affects persons in a variety of ways. Some patients pass through attacks of Intermittent insanity in which a syphilitic history plays no part. In others Syphilis attacks the membranes, neuroglia, and vessels of the brain, producing Confusional insanity and Organic Dementia, the former being fairly curable under the influence of Mercury and Iodide, or Salvarsan. These conditions are invariably accompanied by headache, and sometimes by ocular or other palsies, or by a seizure. They develop as a rule within the first five years after infection. The relation of Syphilis to Idiocy and Imbecility has been already mentioned (*vide* p. 147). Occasionally, in the secondary stage of the disease, the fever has been known to pass into a condition of Acute Confusional excitement of short duration, ending in complete recovery. In some patients of a mild Paranoid character, the eruptions, especially when on the face, have been the means of developing delusions that people are staring at them, etc. Syphilophobia has already been referred to under Psychasthenia; most patients in this category have never contracted Syphilis at all, whilst others who have been cured of their infection, become depressed and suicidal, with a dread of spreading the disease to others. Locomotor Ataxy is occasionally associated with curable insanity, but when mental symptoms arise in Tabes, it is generally a part-process of General Paralysis, both of which are regarded as Para-syphilitic affections.

Phthisis.—Tuberculosis and Insanity are often associated in the same stock, one member of a family dying of Phthisis, whilst another becomes insane. Many of the insane die of Tubercle in asylums (over 1800 per annum), whilst a few phthisical subjects develop mental disease. The hopefulness

generally associated with the sane consumptive is then usually replaced by a gloomy depression with ideas of suspicion and refusal of food. The prognosis is invariably bad, the mental disorder in no way arresting the progress of the lung destruction.

Heart and Lung Disease.—Cyanosis is sometimes accompanied by definite mental symptoms in old people. There is usually Delirium or Confusion with hallucinations and vague fears, passing into Coma. Pneumonia sometimes causes Delirium which passes into insanity. Aortic disease, when associated with insanity, is more frequently attended with excitement, and Mitral disease with anxious depression.

Abdominal Disease.—Gastro-intestinal disorder is usually productive of Hypochondriasis and gloomy depression. Occasionally a growth or ulcer may be the localising factor in the development of a delusion. Movable kidney causes symptoms of distress in some people, involving pain and mental depression, but these are usually alleviated by the use of a renal pad.

Pelvic Disease.—Utero-ovarian trouble is at times the exciting cause of insanity. The cessation of the menstrual functions is productive of mental disorder in some patients, but, on the other hand, in many more the amenorrhœa is brought about by an attack of insanity. Prostatic or Bladder trouble causes insomnia, and is occasionally looked upon as a factor in the mental breakdown of old age.

Disease of the Thyroid.—In *Myxœdema* the thyroid secretion is deficient with mental hebetude, which in some cases amounts to insanity. There is sluggishness of thought and action, and the memory is sometimes affected. Occasionally fretfulness and irritability exist, with fleeting delusions. All the mental symptoms show remarkable recovery under the administration of thyroid extract. The patient should be kept in bed, on small doses at first, viz. the equivalent of gr. iij of the fresh gland once a day. The dose is gradually increased, the pulse and temperature being noted. Any undue rise of the pulse or temperature, coupled with headache and tremors, indicates that the amount of thyroid must be diminished. A graduated dose of thyroid is necessary for the rest of the patient's life, otherwise relapse will occur. *Cretinism* is a

defective condition, physical as well as mental, dependent on the congenital absence or deficiency of the Thyroid. In its severest forms it causes Idiocy (*vide* p. 147), but the milder cases (Cretinoids) are of the Imbecile type. In this country it occurs sporadically, but it is endemic in certain goitrous districts abroad. The Cretin grows, and improves physically under the régime of thyroid feeding (as a rule gr. v to x of the extract may be given *per diem*), but not much mental improvement is to be expected, if treatment has been delayed until after the age of four years. Change from the neighbourhood is advisable to a district where the drinking water is free from chalk and iron. *Exophthalmic Goitre* is probably due to excessive thyroid secretion. The disorder occurs in neurotic families, and there is often a history of shock or worry. Most patients are generally in a state of dread; when insanity ensues, Acute Confusion is the most usual form of mental disorder, and although improvement occurs, relapses are frequent, ending in a chronic delusional state. The prognosis is, therefore, unfavourable in spite of anti-thyroidic and X-ray or electrical treatment.

Pellagra.—This affection, which is not uncommon in Italy, was formerly thought to arise from eating bread made from diseased maize. It is probably due to some organism which Sambon alleges to have its habitat in streams. The disease is characterised by skin affections, diarrhœa, and spinal sclerosis, and in certain cases also by mental depression and excitement with confusion, and frequently leads to a fatal issue. Occasional examples have been reported in Scotland and in this country.

Chorea.—This disorder, which is much more common in children than in adults, is usually accompanied by mental symptoms of a mild nature, such as dulness, inattention, and loss of memory. Acute Confusional excitement occasionally supervenes on Chorea, in which case the choreic movements cease, and the patient usually recovers after a few weeks; in pregnant women an attack of Chorea is sometimes followed by mental depression. In the hereditary progressive malady (Huntingdon's Chorea), depression with mental deterioration is almost invariable.

Paralysis Agitans.—This disease is accompanied in the

Fig. 36.—Myxœdema.

majority of cases by chronic depression, slowness of thought and vague dreads, so that occasionally certification is necessary. Similar mental symptoms are sometimes associated with Disseminated Sclerosis, and also with the Occupation Neuroses.

Sunstroke.—Insolation as a cause of insanity is without doubt much exaggerated by the laity. Most cases of mental disease occurring in the tropics are attributed to the sun without sufficient warrant. It is, however, possible that heat hyperpyrexia may occasionally cause Mania in a person predisposed to Maniacal-Depressive insanity, and it undoubtedly tends to aggravate and accelerate the symptoms of General Paralysis.

The Insane, and Bodily Disease.—The student will learn from his clinical visits to asylums that the insane enjoy a measure of immunity from some ailments, whilst they are more prone to others. The average death rate in insane persons is certainly high, being more than six times that of the outside population. It is rare to find an Acute Maniac catching cold or developing Pneumonia, in spite of exposure, whilst a Melancholiac with his shallow respiration tends to Pulmonary disease and is practically always troubled with constipation and its attendant disorders. Phthisis is unduly prevalent in the chronic cases of public asylums. It has a death-rate which is quite as high as that due to General Paralysis, if not higher. Nervous Diseases (Epilepsy, Cerebral Apoplexy, and Thrombosis, etc.), Old Age, Pneumonia, Heart Disease, Bright's Disease and Arterio-sclerosis come next in the list. Ulcerative Colitis, or Dysentery of an infectious nature, is also common in some of the larger institutions, and it requires isolation, and special treatment by antiseptic enemata, and feeding on bland nutritious liquid diet. As has already been mentioned, Senile and General Paralytic cases are liable to fractures from slight falls. In the latter disease there is a remarkable power of recuperation, ulcers and bedsores healing up in the last stages, when least expected. Skin affections, such as sebaceous and pigmentary anomalies, occur frequently amongst the insane. Finally, it is to be noted that a bodily disease is often the means of improving and sometimes of curing an otherwise doubtfully recoverable mental case. Thus, an attack of Erysipelas

or Eczema has been known to arrest an attack of Melancholia, and to lead to its cure. In the same way the administration of Thyroid in Stupor and Chronic Melancholia is often beneficial.

TRAUMATISM AND INSANITY

The effect of injuries to the skull, and of accidents in general, are not such as can be said to loom to any great extent in the complicated causes of insanity. A history of a blow on the head at some time is not uncommon, but on probing the matter, its significance does not bear the importance that the relatives are apt to accord it. Cases of injury to the head, in which mental disturbance supervenes, are mostly those arising from Concussion, and only rarely are they of such duration as to give rise to a condition of insanity. It is remarkable that in most persons, lesions of the brain and its membranes, with or without fracture of the skull, should happen with such little permanent mental defect. Cases do occur, however, sometimes of alteration of character, and of change of desires and of conduct, in persons who have sustained some injury to the head. Lapses of memory are frequent, and patients are prone to become confused, impulsive and irritable. The severity of the injury has apparently no bearing on the case. When a head injury is accompanied by prolonged mental disturbance amounting to Confusional insanity, the patient has frequently been Alcoholic, but in any case such injury generally renders him susceptible to the overpowering influence of stimulants, and he should become an abstainer.

Most authorities are agreed that there is no definite type of what is sometimes called "Traumatic Insanity," and injury to the head must be regarded as rare in the production of insanity. Neither is there anything distinctive in the case, which is also rare, of mental disorder after a surgical operation. It is, moreover, a question whether the operation itself, or the anæsthetic, is the main feature in the etiology of a case of so-called Post-Operative Insanity. It is usually of a Confusional type.

An injury to the head is likely to light up any tendency to an attack of Intermittent insanity or of Paranoia in a patient predisposed thereto by Heredity or Alcoholism. It is a factor sometimes in the production of Delirium Tremens.

It is also possible for trauma to be an agent in the acceleration of the symptoms of General Paralysis, but it cannot be said to be anything but a contributory cause of this disorder. Mental and motor disturbance after a blow on the head, in many cases, means that the subject is a General Paralytic, and that the injury has rendered the disorder more pronounced. Again, with regard to Epilepsy and its psychical disorders, a certain commotion of the cerebral centres from a blow on the head may just be the exciting factor in starting the tendency to recurrent explosive attacks, but the neuropathic taint is present to produce such a result, whether there be an organic foundation for the disorder or not. Injury to the infant's skull is likely also to cause arrest of mental development (*vide* p. 146). Injury, alleged to produce mental disorder, may be of other parts of the body as the result of accident, and not of the head at all. In this event, the condition rarely amounts to insanity. When symptoms arise without obvious physical disorder, directly after, or within a short interval of the alleged accident, there has usually been some emotional shock connected with it. These are the functional cases which are commonly called "Traumatic Neurasthenia," and which are so difficult to gauge, now that the question of compensation under modern legislation has become regularised. A nervous disorder is indubitably present, which is mostly Hysteria, and which is aggravated by legal proceedings. Often, no improvement takes place until a settlement is arrived at. Undoubtedly, a loophole is left for malingering, which requires close scrutiny, and the physician should be most careful in his examination of the patient to detect signs of fraud. Most of these cases are due to auto-suggestion, and they require treatment of an appropriate nature.

CHAPTER XX

THE PATHOLOGY OF INSANITY

The Brain being the organ for the executive of what we know as Mind, it is natural that the student should expect to find morbid changes within the skull in cases of insanity. These exist, but not always to the extent that might be supposed from a casual examination, and from a comparison with an average normal brain from the accident ward of a general hospital.

In some cases, the cerebral changes are indefinite as regards a naked-eye examination, and sometimes the microscopic appearances are not typical. In others, however, for instance, in pronounced Idiocy, in General Paralysis, and in Senile and other Dementias, the pathological changes are self-evident. The student will find, moreover, that degenerative processes not infrequently also occur in other regions of the body, some of which indicate generalised disease, and must be regarded as factors, in a measure, assisting the disorganisation of brain functions, whilst others are secondary to the cerebral disorder, and have little or no influence on the cerebral processes. The association of the thyroid gland with cerebral processes, for instance, is particularly marked, as the student has already learnt when considering Cretinism and Myxœdema.

The pathology of mental diseases is still in its infancy, but active research is in progress, which is yearly adding to our knowledge. In this country the advance is largely due to the work of Mott, and others are also doing good work in this direction.

The student's study of Psychology will have taught him that the symptoms of insanity, so frequently met with in the shape of disturbed emotions and delusions, can have but little physical counterpart in a post-mortem inquiry, however real

they may be in the living subject. When, indeed, focal lesions are found independently of the special-sense and sensori-motor areas, abnormal mental symptoms arise from defective action of the association or intrinsic neurons, which pervade the entire cortex, but are specially represented in the association areas of the brain.

When morbid changes are restricted, as occasionally happens, to a localised portion of these areas, the entire range of mental operations is, nevertheless, not infrequently involved. Moreover, the constitution of a nerve cell, both molecular and chemical, is so complex that functional changes within the cell require more subtle means of investigation than are at present at the disposal of the pathologist. As might be expected in insanity, the cortex is the part of the brain chiefly affected; the white matter, basal ganglia, cerebellum, pons and medulla, presenting a fairly normal appearance in many cases. The thalamus, also, which is so intimately connected with affective states, might be expected to show more morbid changes than it usually does.

As is the case in general Medicine, the changes that are most obvious, are those that occur in chronic conditions; whilst in acute disorders, the alteration in the tissues is ill-defined.

The student has already been taught how to prepare sections of nerve tissue. In asylum laboratories, Formalin (10 %) is used as a hardening agent and a portion of about $\frac{1}{2}$ to 1 c.mm. of cortex is immersed therein for about ten days. After subsequent washing, it is passed through spirit for forty-eight hours and then embedded in photoxylin and mounted on pieces of wood. Specimens are left in spirit for subsequent section by the microtome. Films of cerebro-spinal fluid are prepared by hardening in Alcohol (after centrifuging), and are embedded and mounted in the same way, and stained with Pappenheim's (pyronin-methyl green) solution.

It has been said that the origin of mental diseases will not be further advanced by making microscopic sections of brain tissue, that thereby the ravages of disease only are shown, and that no clue to causation is possible by histological means. This is true in a limited sense, when such examinations are made with no reference to clinical histories. A comprehensive pathology should embrace chemical investigation, as well as

other means of research, not only of the brain and its investments, and of the cerebro-spinal fluid, but also of the blood, and of the other organs of the body. Moreover, such investigation should be taken in conjunction with a personal history of the patient and his immediate forbears, together with the study of any outstanding special environmental influences.

These latter have already been discussed in the Chapter on Causation, and it is here proposed to refresh the student's memory with certain anatomical and other data, and briefly to consider further than has been possible under the separate psychoses, the morbid changes in insanity that are to be observed in the brain in general, and in the cortex in particular. The chemistry of nervous metabolism is still obscure, although our knowledge in that direction is progressing. The investigation of the electrical variations in nerve currents has not taught us as much as was at one time expected, and so far, this knowledge has had no application to the study of psychiatry, although the galvanometer has been used by some observers for investigating emotional states.

The macroscopic appearance of the brain of an ordinary healthy person should show but slight, if any, injection of the cortex. Hyperæmia occurs chiefly in Acute Delirious Mania and some other acute conditions of insanity. Not much reliance should be placed on the presence of venous congestion, which is usually found in post-mortems. The adult brain should weigh approximately 49 oz. and 44 oz. in the male and female sexes respectively, and it diminishes as old age approaches by about 1 oz. per decade.

The brain weighs about 12 oz. at birth, and about 30 oz. at the end of the first year, the male brain being generally heavier than the female from the beginning. In starvation the brain scarcely wastes at all, but in chronic insanity there is sometimes marked shrinkage, dependent on cortical degeneration and atrophy. By separating the cerebellum, pons and medulla from the cerebrum, it is useful to compare the combined weight of the former three bodies with the weight of the brain as a whole. In a normal brain the proportion should be about one to eight, whereas in many asylum cases it is one to six, thus showing what degree of cerebral atrophy obtains, the atrophy being mostly due to cortical affection.

In General Paralysis the brain usually shows vascular injection, and there is marked wasting of the convolutions, particularly in the frontal and parietal lobes, the sulci easily falling apart. The cortex is diminished in thickness, sometimes by a third. The pia-arachnoid is thickened, milky and opaque, and when stripped from its surface, it frequently takes minute portions of the cortex away with it. There is excess of cerebro-spinal fluid, the white matter is abnormally shiny on section and localised softenings may occur here, as well as in the grey matter. Collections of fluid can sometimes

Fig. 37.—Hemisphere in dementia, showing cortical atrophy and width of sulci.

be seen through the pia-arachnoid on the surface of the brain. Sometimes with the naked eye, the arterioles may be seen to be tortuous and sprouting, and the perivascular spaces to be enlarged and filled with débris. The ventricles are dilated, and their ependyma has a frosted appearance, especially in the fourth ventricle.

The coloured illustration, Frontispiece (Fig. 1), is from an actual specimen, showing the appearance of the brain in pronounced General Paralysis.

In Dementia, especially in Senile, but also in some Alcoholic cases, there is atrophy of the convolutions (Fig. 37); some

demented brains, indeed, closely resemble those of General Paralysis, although, as a rule, the changes are not so complete. Cortical affection is, however, most marked in profound Amentia. The association areas are congenitally deficient, the entire cortex is thin in many cases, and the brain as a rule is small. In severe cases of Idiocy the arrest of development is extreme, and the cortex is scarcely convoluted at all (Fig. 38). Very occasionally, an abnormal cavity (porencephaly) exists in one of the hemispheres, the result of a hæmorrhage at, or shortly after, birth. Other anomalies may also be present. In Hypertrophic idiocy the brain may be much increased in size and weight from overgrowth of neuroglia, and in Hydrocephalus there is an enormous amount of cerebro-spinal fluid. In Systematised

Fig. 38.—Brain in profound amentia.
Weight 8 oz. (Microcephalic idiocy.)

Delusional insanity there is sometimes an atypical arrangement of convolutions, and microgyria, or subsulci may exist. In Mania, Melancholia and Confusional insanities (including some due to Alcoholism), in which a fatal issue has resulted, the macroscopic changes are usually indefinite, unless a process of Dementia has supervened.

The consistence and chemical composition of the brain alter to some extent in conditions associated with insanity. An analysis of the normal brain shows the presence of (1) Lipoids—Lecithin, etc.; (2) Proteins; (3) Extractives; and (4) Inorganic constituents—salts and water. As adult age is reached, the lipoids increase and the other constituents decrease. In General Paralysis, Dementia Præcox, and other Dementias, the lipoids are decreased.

The Neurons.—The histological structure of the normal cortex cerebri has already been briefly referred to (*vide* p. 25), and further consideration must now be given thereto in

Normal. Amentia. Dementia.
(*Diagrammatic.*)

Fig. 39.

comparing it with the appearance of the cortex in pronounced mental diseases. The grey matter is almost wholly composed of neurons or nerve-cells and their processes. These processes are composed of dendrons and axons, and represent the tangential and radial fibres which, in the deeper layers of the

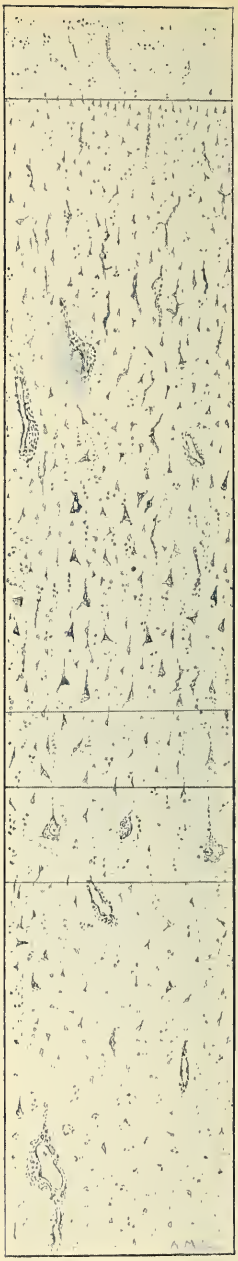


FIG. 40.—Strip of motor cortex in general paralysis, showing loss of nerve fibres and increase of capillaries. (Weigert-Pal × 45.)

FIG. 41.—Strip of motor cortex in general paralysis, showing degeneration of nerve cells and perivascular infiltration. (Nissl × 45.)

[*To face page* 241.

cortex, form a complex reticular network. The other elements are the blood capillaries, lymph channels, and occasional neuroglia cells and fibres. The afferent cortex is receptive by means of subcortical (thalamic) neurons, the axons of which communicate molecular discharges, probably through the granular layer of the cortex, to the dendrons of its intrinsic or association pyramidal cells. The axons of these in turn finally connect with the dendrons of the motor projection neurons of the efferent cortex, through the axons of which energy tends to be discharged. The pathological changes in the cortex in insanity mostly consist of imperfect development, partial or complete destruction, or premature decay, of these association neurons. Their synaptic connexions, which link together the afferent and efferent paths in the cortex, are essentially the seat of mental operations. The morbid processes begin in the supra-granular pyramidal nerve cells, and affect the nerve processes secondarily. There are changes to be noted in the neuroglia and the blood-vessels, and there is an altered composition of the cerebro-spinal fluid. These changes occur also in the primary efferent neurons, especially in General Paralysis, and are best exemplified in the giant Betz cells which exist in the emissive portion of the Frontal lobe, and they are to be noted in the larger and smaller pyramidal nerve cells which pervade the cortex, and subserve the intellectual life. In extreme cases the pryamidal nerve cells are completely atrophied and the tangential and radial nerve fibres disappear. These pathological defects are markedly shown in Amentia and Dementia, which the foregoing diagram (Fig. 39) serves to illustrate.

Figs. 40 and 41 are drawings of strips of motor cortex taken from a case of General Paralysis. The diminution and distortion of the pyramidal nerve cells are marked, together with proliferation of vessels and perivascular cellular infiltration, and atrophy of the tangential and radial nerve fibres. They should be compared with the drawings of strips of the normal motor cortex facing p. 25 (Figs. 12 and 13).

In emotional states such as occur in recent or acute attacks of Mania and Melancholia, and in many cases of Confusional

insanity, the changes in the cortex are less obvious, amounting perhaps to cloudy swelling of the nerve cells which is only of a functional nature and capable of reparation, but in chronic cases, when Dementia is manifested, the nerve cells exhibit degenerative changes.

A nerve cell nourishes itself by the imbibition of the surrounding lymph, and accumulates a store of latent energy to be used when required. This potential energy is high in healthy individuals, but is low in those from an insane stock, in whom cortical metabolism is defective. The nerve cells discharge explosively or irregularly, and morbid changes result, leading to permanent degeneration. The association nerve cells belonging only to one group or system may be implicated, others escaping by reason of their higher vitality, and possibly performing partially the functions of those that are destroyed.

The most effective staining methods for demonstrating changes in nerve cells and fibres, are the methylene blue of Nissl for the former, and the Weigert-Pal (hæmatoxylin) for the latter. Making comparisons between sections taken from normal brains, and from brains of the chronic insane, and discounting errors due to post-mortem appearances and artifacts, the following pathological changes may be mentioned. The nerve cell, as it fails in vitality, becomes cloudy and begins to swell. This is probably due to osmosis, and it encroaches on the cavity in which it lies surrounded by its nutrient lymph. The nerve cell alters in shape and becomes rounder. The chromatoplasm composing the Nissl bodies gets broken up, and the granules are finally disintegrated into a fine dust (*chromatolysis*), those at the periphery of the cell being usually first affected. The delicate fibrils of the matrix become similarly broken up (*achromatolysis*), and take the stain more readily than they do normally. The nucleus of the cell alters in contour, is less distinct, falls to the periphery, and so becomes eccentrically placed from lack of support. Vacuolation of the cell occurs as the matrix disappears. The axon and dendritic processes (or dendrons) of the cell become varicose, then shrivel and finally disappear as the cell atrophies. Thus a homogeneous unstained mass results, and ultimately a granular scar is left. Surrounding the nerve cell the lymphatic space is enlarged, and it contains many satellites.

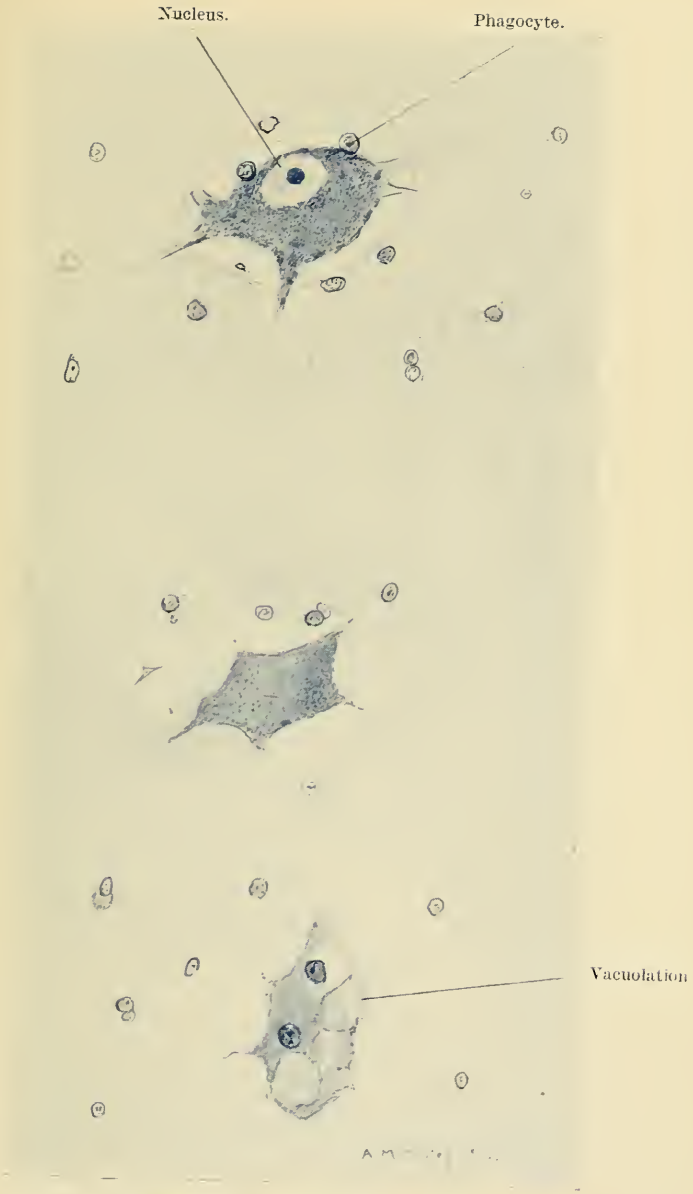


FIG. 42.—Stages of degeneration in nerve cells, showing also phagocytosis. (Nissl × 400.)

[*To face page 242.*

These are mostly glia cells, and are concerned with the absorption of the retrograde products and waste débris which choke up the space from destructive metabolic action. The accompanying illustrations (Fig. 42) should be compared with the normal nerve cell, facing p. 24 (Fig. 11).

These pathological changes occur in greater or less degree in the nerve cell, when its nutrition is impaired from various causes. From excessive stimulation of the nerve cell, its metabolism may be so much affected, and its energy (both potential and actual) so reduced by fatigue products as to prevent proper oxygenation. The normal biochemical interchange between the nerve cell and the surrounding lymph or cerebro-spinal fluid is disturbed, and its reserve oxygen and organic basis are encroached upon. Defective stimulation has likewise a destructive influence on the nerve cell.

More commonly these appearances are due to blood conditions, such as Anæmia or Hyperæmia, Local or General, Primary or Secondary, and more especially to the existence of toxins. These toxins may be introduced from without (Exogenous), or may be engendered within the body (Endogenous). The former include Alcohol, Microbic and other poisons, the latter are not so easily specified, their composition being unknown to a great extent. Amongst these may be mentioned toxins produced in the cortex itself as the result of morbid metabolism, others from the Liver and Intestinal tract the result of faulty digestion and constipation, and others again from various parts of the body, but especially from altered hormones or internal secretions of the ductless glands. Orr and Rows have demonstrated also the possibility of infection of the spinal chord and brain, from septic foci in remote parts of the body, by means of the lymph system, in the sheaths of nerves.

Although the processes and fibres of cortical nerve cells are only secondarily affected in degenerative changes, it is possible that toxins may have a selective influence on the synapses. These synapses exist at the terminal arborisations in the hypothetical receptive substance, where probably active metabolic processes occur, and where possibly even toxins may be produced in neuropaths.

The Neuroglia.—This consists of delicate connective

tissue, composed of glia cells with branching processes and fibres, which stain readily by the Weigert process. It forms the supporting or protective system for the nervous elements. From the ventricles of the brain, fibres pass in a radial direction, frequently branching, and finally ending under the pia mater of the convolutions; the other fibres are prolongations of processes of glia cells. Glia cells vary considerably in size, some being mere granules, whilst others give rise to the Deiter's or so-called Spider or Scavenger cells. The latter are somewhat sparsely interspersed normally in the cortex, but undergo marked proliferation in certain conditions, especially in General Paralysis and Senile Dementia.

Glia cells have each a nucleus and nucleolus, and, as insisted on by Bevan Lewis, have a phagocytic action, removing inflammatory detritus by sweeping it into the lymph channels, and devouring the refuse of degenerated neurons. Frequently a glia process is seen attached to a capillary or to a nerve cell. With the Nissl stain the glia cell processes scarcely show, and therefore they are apt to be mistaken for leucocytes and lymphocytes surrounding a decaying nerve cell. As neurons degenerate and atrophy, so glia cells and their processes and fibres proliferate, possibly from the non-absorption of nutrient lymph by the nerve cells. Eventually in chronic cases a sclerosis supervenes, due to increase of neuroglia tissue. A certain degree of gliosis has been described in the deeper layers of the cortex in Dementia Præcox. Overgrowth of neuroglia to a remarkable extent is to be observed in Hypertrophic idiocy. It also occurs independently of actual insanity in the so-called gliomatous tumours which frequently become hæmorrhagic. Glia cells surrounding an atrophying nerve cell may be so abundant as to block the lymphatic space almost entirely. There is also a similar infiltration, and choking with glia cells and some leucocytes in the lymph spaces and in the sheaths around the blood-vessels. These characteristics are very marked in some advanced Dementias, especially in Senile and Alcoholic Dements, whilst they occur in an exaggerated degree in General Paralysis. In the last-mentioned disease, lymphocytes and plasma cells are also present in the lymphatic sheaths, and rod cells (and mast cells) are likewise to be seen. There is some doubt as to the origin of these plasma cells and rod cells; the former are probably altered

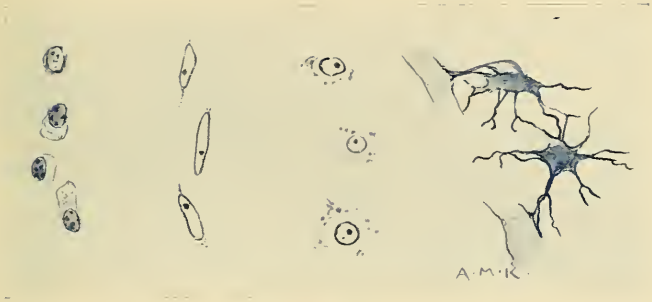


FIG. 43.

Plasma cells. Rod cells. (Nissl)—Glia cells—(Weigert). (× 500.)

FIG. 44.
Granulations on the floor of fourth ventricle.
(Semi-diagrammatic × 50.)

[*To face page* 244

endothelial cells, the result of proliferation in the lining of the blood-vessels in General Paralysis, and are only to be seen in this disease, in Cerebral Syphilis, and in Sleeping Sickness.

The Cerebro-spinal Fluid.—This consists normally of a clear saline liquid (NaCl), which is faintly alkaline, and is devoid of ordinary albumen, and therefore does not coagulate on boiling, but contains globulin, and traces of urea and dextrose. It should be almost entirely free from corpuscular elements. Its specific gravity is about 1006, and probably from 100 to 150 c.cm. are secreted in the twenty-four hours. It changes rapidly after death. In atrophic brain conditions, and especially in General Paralysis, there is considerable excess of fluid to be found at a post-mortem, in comparison with the escape of such liquid from a normal brain. In Hydrocephalus, the amount of fluid may be enormous. The pressure is variable, being about 140 to 150 mm. of mercury, but in General Paralysis it may be 200 mm. or more. It is secreted by the epithelium lining the Choroid plexus of the lateral and fourth ventricles, and circulates at each cardiac systole through the foramen of Majendie, into the central spinal canal, and also escapes through the sub-arachnoid spaces, and along the lymphatics accompanying the glosso-pharyngeal and other cranial nerves, and along the spinal nerve roots. It is probably absorbed again together with the lymph that bathes the nerve cells, by the venous spaces, and so enters the superior longitudinal sinus, by means of the lymph channels and perivascular sheaths of the cortical arachnoid and dura mater, and from the spinal region possibly by means of the thoracic duct. It undoubtedly escapes at times into the naso-pharynx, and is therefore liable to infection in diseased conditions. The cerebro-spinal fluid acts as a protective cushion to the brain, filling up all spaces and minimising shocks to the nervous system. It also resembles lymph in its functions, and is the medium of exchange between the blood and nervous tissue in metabolic processes, the acid products of which become neutralised. Its chemical composition has been investigated especially by Mott, who finds an excess of cholin in General Paralysis, due to products of degeneration. This body—cholin—arises from the hydration of lecithin (protagon), a phosphoretted lipoid (fat), which becomes split up in this

as it is apt to be forgotten when he leaves his medical school.

The *Arteries* are derived from the Internal Carotids and the Basilar (the latter resulting from the union of the Vertebrals). From the former are given off the anterior and middle cerebral arteries, and from the latter the posterior cerebral arteries. The two anterior cerebrals communicate, as do also the middle and posterior cerebrals, forming the circle of Willis.

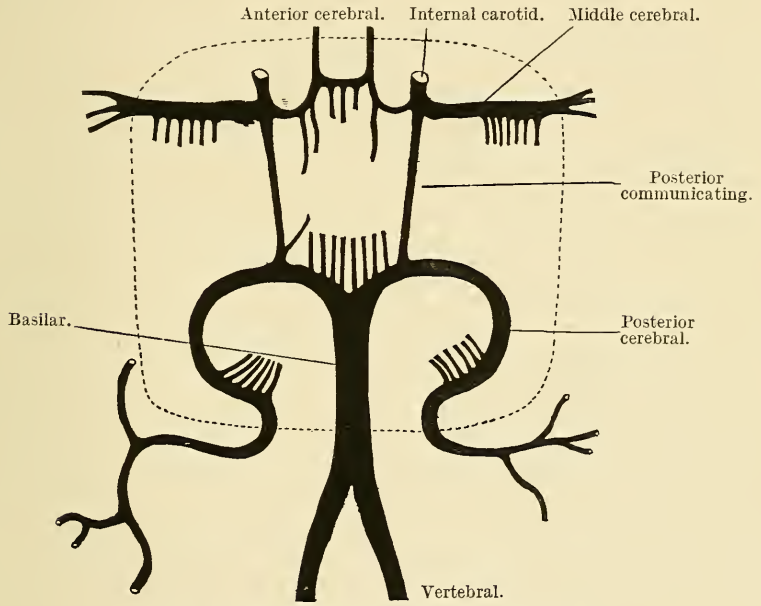


Fig. 46.—Diagram of the arteries of the brain.

Each of the anterior, middle, and posterior cerebral arteries divides into two separate systems of branches, viz. central and peripheral. The former supply the basal ganglia and white matter, the latter supply the pia mater and cortex; and there is no communication between these two systems. The former are strictly terminal vessels, and do not anastomose with one another. The latter divide into small arterioles which ramify in the pia mater and enter the cortex vertically, some of them penetrating for a short distance into the subjacent white matter.

The *Capillaries* form a dense network in the cortex, which is extremely well supplied with blood, the chief vascular area being the mid-zone of the grey matter, in fact, the latter may almost be likened to a sponge soaked in blood.

The *Veins* of the cerebrum, as well as the *Sinuses*, possess no valves, and are devoid of any muscular coat. On leaving the brain tissue and pia mater, the veins enter and become continuous with the sinuses between the layers of the dura mater, their junction being in an opposite direction to the blood-current. They may be divided into a central or deep

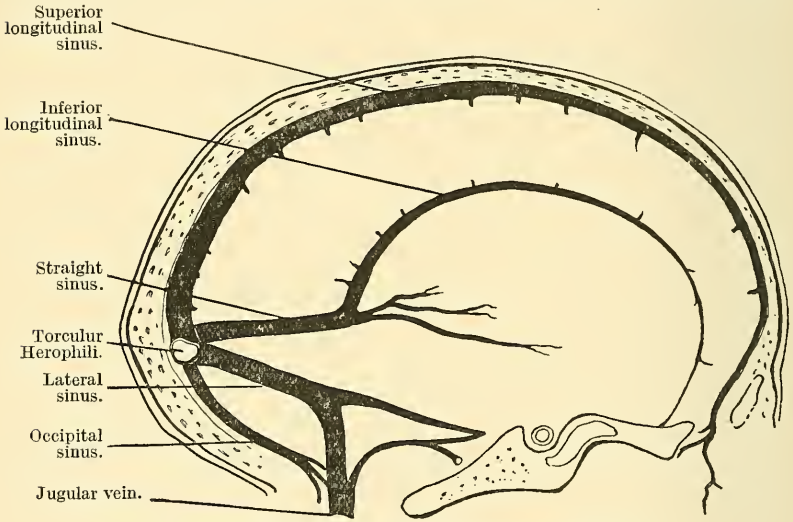


FIG. 47.—Diagram of the venous sinuses of the brain.

set, which unite with the veins of Galen entering the straight sinus, and a superficial set for the cortex, the superior of which enter the superior longitudinal sinus, the inferior being received by the cavernous, petrosal, and other sinuses. The straight sinus receives the inferior longitudinal sinus, and unites with the occipital sinus and superior longitudinal sinus, at the Torcular Herophili, which empties into each lateral sinus, and thus into the internal jugular veins.

The Cerebellum derives its arterial supply from the vertebral and basilar arteries, and its veins enter the straight, petrosal, and other sinuses.

The blood conditions in the insane have been closely

investigated, but beyond those associated with Diabetes, Gout, Syphilis, and other somatic disorders, there are not any pronounced changes to be noted. Anæmia is certainly present in many cases; according to Lewis Bruce, leucocytosis exists in many insanities, especially in the Confusional types, the white blood cells, 70 % of which consist of polymorpho-nuclears, being increased from 10,000 to 50,000 per c.mm. Nothing certain is known as to the nature of the different forms of hypothetical auto-toxæmia, whether from altered internal secretions of the ductless glands or from toxins, the result of organisms in the alimentary tract, which the protective forces of the body are apparently unable to deal with. It may be said that micro-organisms in the blood are generally conspicuous by their absence in insanity. Opsonic work, moreover, has so far not thrown any fresh light on blood conditions in the insane. Clinically the general blood pressure is frequently raised in cases of depression, and it is sometimes lower than normal in excited patients, whatever the explanation may be.

The cerebral circulation is under vasomotor influence that is not fully understood. It is probable that vascular changes are more often secondary to nervous molecular changes and are not primary factors. It would appear that the blood supply of localised areas of the cortex may be temporarily inhibited. In strong emotions, vascular appearances in the body are generally accompanied by corresponding vascular changes in the brain. Cortical activity is associated with increased flow of blood through the brain, whilst during sleep the cortex is undoubtedly anæmic.

In many cases of Melancholia and Stupor, the cortex is probably anæmic, with a sluggish circulation and venous congestion, whilst in Mania, especially in the acute stage, and in Delirium, hyperæmia is the rule. It has been demonstrated experimentally that anæmia of the brain can cause delirium as well as unconsciousness, so also does chronic congestion of the brain, as in heart and lung disease. It would appear, therefore, that whatever alteration of the blood-flow occurs, the quality of the blood must be taken into account; and that the metabolism and proper oxygenation of the neurons, on which the healthy nutrition of the cortex depends, result from a combination of factors.

Some of the congestive seizures of General Paralysis are due to circulatory derangements, which are restored by means of collateral anastomoses in the cortex. Similarly the transitory Aphasia and Amnesia sometimes observed in the insane may be due to localised circulatory influences. Blockage of capillaries, and minute hæmorrhages are frequently seen in sections taken from persons dying insane; in Idiocy and Dementia the capillaries often look like fine bands, and are evidently disused. In General Paralysis there is marked proliferation of the endothelium of capillaries, and perivascular infiltration with lymphocytes and plasma cells. There is also considerable new formation of capillaries in the cortex (*vide* Figs. 40 and 48), and also in the pia mater, where they should not exist at all. These are prone to rupture in the pia arachnoid, and lead to organised blood clots. Thromboses and emboli are occasionally seen in the small arterioles. These are often associated with miliary aneurysms which rupture, producing hæmorrhages.

The coats of the cerebral arteries are frequently diseased in Arteriopathic Dementia, Senility, and in chronic Alcoholism. The vessels become tortuous and atheromatous (endarteritis deformans). The degeneration of the internal coat may be fatty, hyaline, or fibroid, and calcification is not uncommon. The muscular coat also shows granular changes and colloidal degeneration, and the external coat is thickened (periarteritis.) In General Paralysis and Syphilitic brain disease the internal coat is thickened, and the lumen of the artery is contracted (endarteritis obliterans).

The venous sinuses are occasionally subject to thrombosis from septic disorders of the ear, nose, or throat, and of the cranium and scalp, with which latter the sinuses are in communication by veins piercing the bone.

The Membranes of the Brain.—*The pia arachnoid*, for the most part, may be described as one membrane. It covers the surface of the cortex, and lines the ventricles, forming folds for the Choroid plexus and velum interpositum. The pia itself dips deeper into the sulci of the cortex than does the arachnoid, which is its endothelial lining. Between it and the dura is the arachnoid space. The two layers bounding

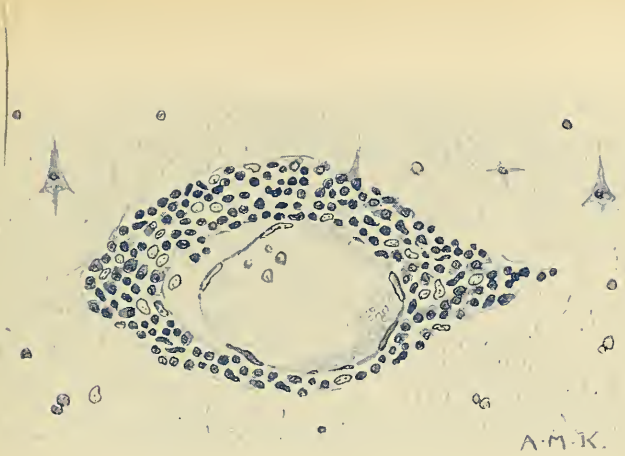


Fig. 48.—Perivascular infiltration. (Nissl × 300.)

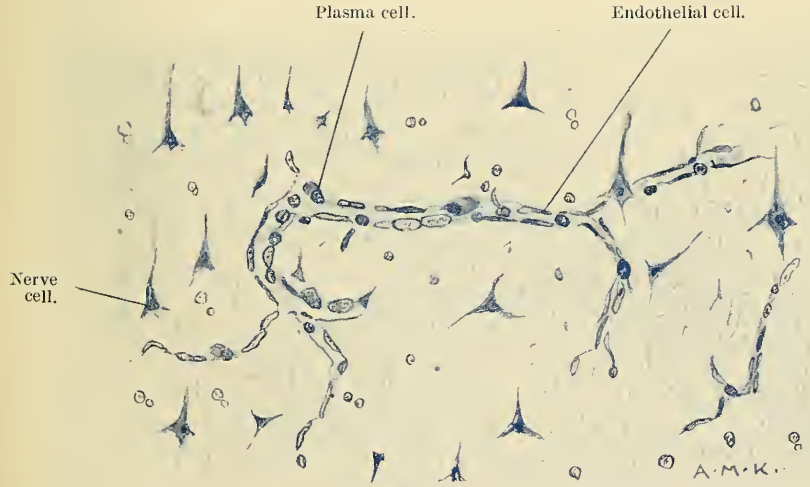


Fig. 49.—Proliferating capillaries; also plasma and endothelial cells. (Nissl × 300.)

[*To face page* 250

the space, however, are closely approximated, excepting at the lacunæ between the sulci and certain cisternæ, especially at the base, where the cerebro-spinal fluid collects. The pia is composed of delicate areolar tissue containing the arterioles and venules, with their perivascular lymphatic channels, which perforate the cortex vertically and minister to the nutrition of the cortex. Normally, it should be fairly easily separated from the cortex. In chronic insanity the pia arachnoid becomes milky and opaque from blockage of the lymph spaces, and it is thickened and adheres to the brain tissue in parts, from neuroglial overgrowth. It loosens again later from fatty liquefaction due to localised softenings, and sometimes from post-mortem changes. On stripping the pia arachnoid from the cortex in an advanced case of General Paralysis, the worm-eaten appearance (decortication), already mentioned, on the surface of the brain is due to the same process. Microscopically the membrane is also infiltrated with lymphocytes and plasma cells. In this disease, as has also been mentioned before, the ependyma of the ventricles—especially the fourth—is granular or frosted from hyperplasia of the epithelium and proliferation of the subjacent neuroglia (*vide* Fig. 44, facing p. 244). This appearance is often also evident on the choroid plexus and velum interpositum, and is probably due to the irritation of toxic products in the cerebro-spinal fluid. A subdural false membrane is present on rare occasions: this is due to fibrous changes in an old blood-clot, either from rupture of pial vessels, or from a hæmatoma of the dura mater effusing into the arachnoid cavity, producing the so-called pachymengitis hæmorrhagica.

The Dura Mater is a more fibrous membrane, which contains the venous sinuses between its two layers. It forms the internal periosteum for the Cranium, and is usually adherent to the bone at the base of the skull, but is normally somewhat free at the vertex. It, however, is not infrequently attached in the frontal region and along the sagittal suture, as a result of deposition of new bone, which is sometimes accompanied by inflammatory changes (ossifying pachymeningitis). This ossification, or calcification, is often seen in old Dements and in Senility, independently of insanity, and, indeed, it affects the dural processes sometimes. These processes form the falx

cerebri and cerebelli with the tentorium cerebelli intervening. The internal layer is smooth, with an endothelial lining, and between the fibrous meshes of the outer layer are blood-vessels with perivascular lymph channels, and lymphatic spaces which become choked in General Paralysis. But rarely is the dura mater ever adherent to the pia arachnoid. In both General Paralysis and Senility it is commonly thickened and unduly opaque as the degenerative changes advance, and rarely does it become thinner than normal. As has already been mentioned, it is sometimes the seat of hæmorrhage—pachymeningitis hæmorrhagica.

The Pacchionian Bodies, which are present on the outer surface of the dura mater, and sometimes groove the skull, lie mostly along the superior longitudinal sinus, and project therein. They are in reality arachnoid processes, which proliferate and push the thinned dura before them. They increase in size with age, but have no particular significance in insanity.

The Pituitary Gland is not as a rule structurally affected in insanity. Like the thyroid, supra-renal, and sexual glands, it exerts considerable influence on the nutrition of the nervous system and body generally. Its internal secretion, besides entering the blood, probably also adds ingredients to the cerebro-spinal fluid through the third ventricle. Situate in the Sella Turcica its anterior epithelial part is enlarged in Giants and Acromegalics. Its posterior part is mostly neuroglial, and an extract thereof markedly increases renal and lactational activity, besides raising the general blood pressure.

The Pineal Body often contains earthy salts (brain sand). It has no known function, and is probably the remnant of an ancestral eye.

The Cranium.—The shape of the skull is largely, if not entirely determined by the configuration and size of the brain. There is no evidence to favour the view that premature synostosis of the skull ever occurs, preventing brain growth. In some cases the frontal suture persists. In the insane the skull undoubtedly deviates from the average normal standard more than in the sane population, but not as often as is generally thought. Some skulls are manifestly asymmetrical

and degenerate in formation, with recession of forehead and prominence of maxillæ (prognathism), a flattened nose, and an acute facial angle (*i. e.* less than 75° as measured from the the central incisors to the forehead and ear). Not much difference between the sane and the insane is to be noted in the size and capacity of the skull, which depend largely on the height of the individual, and on racial and other characteristics. The circumference of the head of the newborn child is usually about 13 or 14 ins. The average normal circumference in adults should be $22\frac{1}{2}$ ins., the greatest length and breadth $7\frac{3}{4}$, and $6\frac{1}{8}$ ins. respectively, as measured by callipers. The "cephalic index" is calculated by multiplying the breadth by 100 and dividing by the length; it varies between 70 and 90. Some Microcephalic idiots have very small skulls—below 17 ins. in circumference — whilst in Hydrocephalus, and Hypertrophic idiocy the skull may be enormous, from 25 to 40 ins. in circumference. As to its bony structure, about 50 % are thickened (osteo-sclerosis) with very little diploe, and under 2 % are thinner than normal (osteo-porosis). The former is usual in chronic Epileptics from active nutritional changes, and the latter occurs in Hydrocephalus and in some old Dements. Bony outgrowths are to be seen occasionally in chronic Dements and in General Paralytics. The teeth in some of the insane are prone to project unduly, and are frequently misplaced, irregular, and carious.

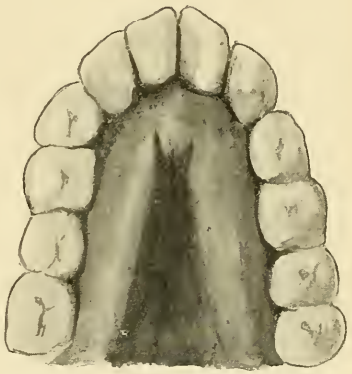


Fig. 50.—The V-shaped palate.

The Palate is frequently deformed, unduly arched, or V-shaped in insanity, especially in that of degenerate origin. It is due to defective growth of the superior maxilla and palate bones.

The Ears are also sometimes abnormally implanted, malformed, asymmetrical, too small or, more generally,

they are enlarged, and they project outwards. There is frequently prominence of the Darwinian tubercle, the lobule being adherent or absent, and many other anomalies of the ears may exist.

Stigmata of degeneracy sometimes are found in other regions of the body, *e. g.* genital anomalies, femininism, masculinism, hairiness, herniæ, spinal deformity, club-foot, spina bifida, polydactylism, etc. Here it may be mentioned that many sane persons exhibit an occasional stigma of some kind, and that it is only when many of these physical defects are observed in the same individual that degeneration can really be said to exist. Moreover, in such a case, they are usually

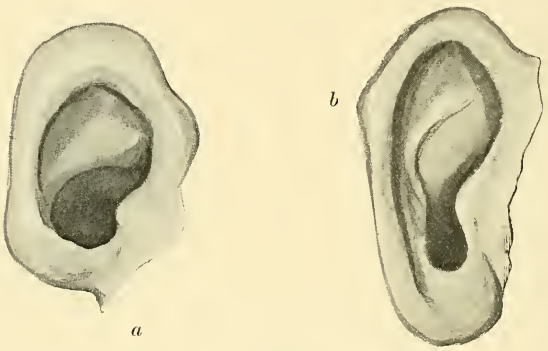
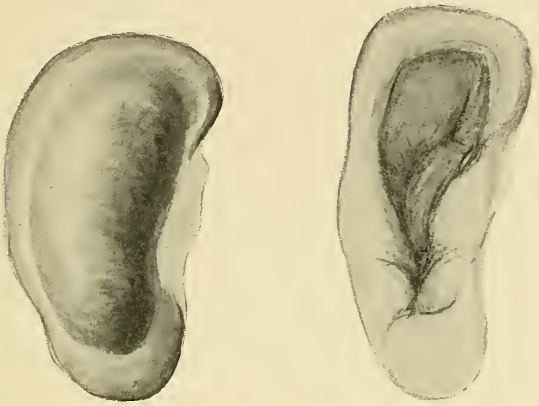


Fig. 51.—Abnormalities of the ear.
(*a*) Adherent lobule; (*b*) Darwinian tubercle.

accompanied by psychic stigmata. It should be noted also, that many varieties of insanity are entirely free from degeneration at all.

Hæmatoma Auris, Othæmatoma, or the so-called Insane Ear, occasionally occurs in General Paralytics, Epileptics, and restless cases generally, and is always due to injury of some kind. It has not such prognostic value as was once supposed. It results from defective nutritional changes in the ear cartilage, which loses its elastic fibres, and becomes cystic and hæmorrhagic. The blood coagulates, and finally fibrotic contraction ensues, leading to disfigurement of the ear if untreated. The hæmatoma occurs also in some normal individuals especially in footballers and boxers.

Trophic Disturbances.—Finally, disease of the cerebral cortex reflects itself in general failure of the metabolism and nutrition of the body. Loss of weight is frequent in acute insanity, and although in the mid-stage of General Paralysis



a *b*

Fig. 52.—Hæmatoma auris; (*a*) cystic; (*b*) fibrotic.

and in quiescent Dementia, patients are prone to become fat, most progressive cases tend to emaciation. Bed-sores are liable to arise from slight pressure, the skin may become glossy, the nails grooved, and the hair brittle, while trophic changes may be observed in the viscera.

CHAPTER XXI

THE ELEMENTS OF PROGNOSIS

To prophesy the course and termination of mental disorder in a given case is often the hardest task of the physician. According to the extent of his experience will he be able to foreshadow the future of his patient, and to be more or less correct in his prognosis. Upon his opinion much frequently depends, for financial and family arrangements have to be considered in Mental diseases more than in other departments of Medicine. Therefore, on the accuracy of prognosis, anxious thought has to be spent, as the matter entails no little responsibility. At the same time, to be too guarded savours of ignorance, and there are certain indications which enable an opinion to be formed with some amount of justification.

In some instances a prognosis can be given without much difficulty, whilst in others physicians of equal experience will differ. Especially is the prognosis dubious when the type of insanity is ill-defined, or is composed of more than one psychosis, or where the etiology is complex and the capacity and quality of the innate nervous constitution more doubtful than usual. Considerable assistance may be derived from an authentic history of the patient. Thereby can be learnt what his previous tendencies have been, and to what use or abuse he has subjected his natural powers. Information should be elicited whether he was regarded as an average normal person, or whether he was nervous, excitable, shy, apathetic, or depressed; or again, whether he previously exhibited some other morbid mental trait upon which the mental disorder has been engrafted. Usually, the more normal a patient was before a breakdown, the better are the chances of his recovery.

Although there are conditions of transient excitement and depression lasting from a few hours to a few days, which are

exaggerations of the rhythm common to most individuals, the majority of mental diseases run a course consisting of weeks or months, before recovery can be expected; and thus they contrast with most other diseases in their longer average duration. Mental diseases, accordingly, are naturally looked upon as a greater calamity, involving as they do considerable expense, owing to the necessity of special nursing and change from home, which expense not infrequently pauperises the patient of spare means. The friends of a patient are naturally anxious to have a forecast of the case. Will he recover, and if so, in what space of time? Will the recovery be complete, or will his mind be in any way affected, so that he will be different from what he was before? What are the chances of a relapse or of a recurrence? In a severe case, is there any likelihood of a fatal issue, from exhaustion or complications? If the patient is an early General Paralytic, how long will he live, and is a remission to be expected? These, and sundry other questions, the relatives of patients are prone to ask.

In order to prognose with any pretence to certitude, a correct diagnosis must be made. This, however, is not always an easy matter, in the absence of a knowledge of the patient's temperament and of the details of his past history. Remarks have already been made as to prognosis under the different psychoses, and it is proposed now to give a general outline, by way of recapitulation.

As regards *sex*, the prognostication is rather better in females than in males. With reference to *age*, the younger the patient, the better are the recuperative forces and the chances of recovery, and the shorter is the attack likely to be. It must, however, be borne in mind that insanity in early life indicates a serious want of nervous stamina, for it is unusual for an adolescent patient to have been subject to much of the external stress of life. Many of these cases are instances of Dementia Præcox in which the ultimate issue is unfavourable: others are failures of evolution in which but little improvement is to be expected, and which are manifested by the various grades of Imbecility and Feeble-mindedness, and in its marked degree, by such mental impairment from birth as to be classed as Idiocy. The determining causes in every case should be elucidated as far as possible. To what extent does heredity

influence the case? What kind of family stock does the patient spring from? It has been said that where instability is marked, the molecular changes in brain constitution, culminating in an attack of insanity, are just as likely to revert back to the normal, so that, contrary to popular opinion, an insane heredity does not necessarily prejudice recovery from the attack in question, but the chances of recurrence are nevertheless more probable. This is well exemplified in Maniacal-Depressive insanity; and it applies similarly to a family history of Alcoholism, Epilepsy and Neuroses, although in less degree. The prognosis is unfavourable in cases derived either from a stock of low intelligence, or from one in which eccentricity is prominent, as in these the stigmata of degeneration are likely to be found.

With regard to cases that are attributed to sudden causes such as emotional Shocks and Frights, it must be pointed out that insanity cannot develop in a moment, except in predisposed persons. These cases invariably have shown indications of mental instability beforehand which have frequently been unnoticed. The more acute the onset the more favourable is the prognosis, and the possibility of a sudden recovery.

Cases in which the chief factors in the etiology are definite and removable, as a rule do well, such as Puerperal cases, Confusional and Stuporous cases, especially if associated with anæmia, constipation or other somatic affections. Likewise is the course hopeful in Alcoholic cases, provided the poison is not too long continued, but it must be borne in mind that they have an overpowering tendency to relapse, especially in females. Cases occurring in connexion with the Menopause are on the whole satisfactory; improvement may, however, be delayed, perhaps for two or three years. An acute attack of insanity, as a rule, has a better prognosis than a slowly developing mental derangement. Although mental depression associated with, or dependent as it so often is on, visceral and other disturbances is eminently curable, yet when it passes the border-line of sanity, the prognosis of Melancholia in asylum cases, which of course are usually the worst, is not quite so good as that of Mania. Moreover, its course is apt to be longer, and when associated with Hypochondriacal delusions, the prognosis as regards recovery is less certain,

and the risk of suicide has always to be encountered. The subsidence of emotional symptoms and the advent of aural hallucinations invariably portend chronicity. Cases of Mania usually get well within six months, but they seldom recover if they last two or more years. Cases of Melancholia, however, have been known to be discharged cured, after ten years' duration. These two phases of Maniacal-Depressive disorder sometimes kill the patient by sheer exhaustion, in Mania more often than in Melancholia, and this occurs also in Acute Confusional insanity. Acute Delirious Mania is a peculiarly fatal malady, and when patients survive, it almost always leaves permanent mental weakness. The more severe Puerperal cases resemble it in this respect.

General Paralysis is still a hopeless disease, the average duration of which is about two to three years. It is true that some patients appear to get well, the disease being arrested, so that remissions occur; these are seldom long, they take place mostly in the expansive form, sometimes in the depressed type, but practically never in the demented form of the disease. The physician must be sure of his diagnosis before giving his opinion, for some cases resemble Alcoholic insanity, Cerebral Syphilis, and other conditions, and early cases have been mistaken for Neurasthenia.

The insanity of Epilepsy is of bad prognosis. Patients recover from attacks of epileptic excitement, but the tendency to recurrence and Dementia is pronounced, especially if the fits are frequent and are also of the petit mal type.

The insanity from Gross Brain lesions, or Traumatism, is always unfavourable as regards recovery, as is also that associated with Phthisis, Chronic Renal, or Arteriopathic disease.

Of the Senile psychoses, attacks of simple Mania and Melancholia sometimes yield to treatment and end in recovery, but the disorders are usually progressive, and the patient becomes demented, and seldom lives long. Dementia is almost synonymous with incurability, although some cases of Dementia Præcox do recover. Dementia is due to organic destruction of brain tissue, which is past repair; it should be differentiated from Stupor, which is dependent on functional dissociation, and when not prolonged is eminently curable. In Congenital

cases little can be done from a curative point of view, but Imbeciles and Feeble-minded persons improve under discipline and routine. The severer types of Idiocy rarely reach maturity; in fact, most Idiots are short-lived.

Prognosis in insanity is in great measure dependent on the duration of the disease prior to the patient's coming for treatment. The early signs of mental disorder in a poor person scarcely receive attention. He has no opportunity for rest till he loses his employment, and when the disorder is fully developed the relieving officer has to be called in for assistance. With the person of means, on the other hand, the relatives are unwilling to face the facts, and they try to avoid the issue through makeshifts of various kinds by which the best attention and a good prognosis become jeopardised.

There are certain indications in the progress of a case which are of good and of bad import, to which reference must be made. If a patient gains weight and shows bodily improvement, and yet the abnormal mental condition remains the same, the outlook is an unfavourable one. A person on the road to Dementia frequently becomes fat. A gradual improvement in both the physical and mental states is more conducive to a durable recovery than sudden and periodic lucid intervals during the course of the disorder. In females between the ages of about fifteen and forty-five the menses in mental disorders are frequently affected, in acute states there may be a cessation of the menstrual flow, and in patients who improve there usually is a return of the natural periods; in chronic cases, however, the menses continue for the most part in an irregular manner.

The *persistence* of certain symptoms is unfavourable. Thus, obstinate refusal of food, necessitating tube-feeding over a considerable period of time, is of bad import, and so is a recurring suicidal tendency. A delusion that is becoming *fixed* —which sometimes happens in Maniacal-Depressive and Confusional insanities—or delusions that are *systematised* (Paranoia), and the development of *persistent hallucinations*— especially of hearing—in any variety of insanity, are all of bad prognostic import. *Other unfavourable symptoms* are: vacancy and fixity of expression, apathy or aversion towards relatives, marked loss of memory—if persistent—neglect of

personal appearance and attire, the growth of hair on the face in females, wet and dirty habits, repeated masturbation, picking of skin, nail-biting, pulling out of hair, general destructiveness, collecting rubbish, etc., stereotyped movements and mannerisms. Marked *periodicity*, as in Alternating insanity, is usually of bad omen as regards recovery, although differing from Intermittent cases in which each succeeding attack tends a further step towards Dementia. Patients with a suspicious or jealous temperament, those with fervent religious or erotic emotions, and those subject to impulses, obsessions, or morbid fears and doubts (Psychasthenia) must always be given a guarded prognosis. This applies equally to patients of the Neurasthenic type, but in Hysterical affections the issue is more hopeful. Delusional cases, as a rule, have a better outlook, if the patients originally possessed good mental powers, and if the delusions change from time to time. *Bad physical health*, as indicated by loss of weight, a sallow complexion, a rapid and feeble pulse, a rise of temperature, or a dry tongue with sordes on the lips, whether induced by the mental disorder, by complications, or by pre-existing bodily disease, always renders the prognosis grave.

Variation in symptoms is a hopeful sign, as is also a return to cleanliness of habits, a gradual interest in surroundings, a desire for former pursuits, and a recognition by the patient of the stages of his disorder (insight). About the most *hopeful* cases, next to mild Melancholiacs that scarcely require certification, are attacks of Acute Mania in young people, and of Anergic Stupor, Recent Melancholiacs, Puerperal cases, Alcoholic and other Confusional insanities.

CHAPTER XXII

THE LEGAL RELATIONS OF INSANITY AND MENTAL DEFICIENCY

From the *medical* point of view, when a person is alleged to be insane or mentally deficient, he is assumed to be suffering from some form of brain disorder (or defect), functional or otherwise. Such disorder manifests itself in aberration of conduct, which the physician has to consider, together with other symptoms, in the diagnosis of the condition.

The *legal* aspect of the case is somewhat different. It is concerned only with the conduct or action of the individual in question, and with his verbal and written statements.

Is he able to look after himself and his affairs? Is it safe to leave him to his own devices? Is he competent to transact business? Is it right to interfere with his liberty? Has he sufficient mental capacity to make a valid will? Should a contract he is making be regarded as binding? Is he responsible for his actions if, as alleged, he has committed a crime, and did he know what he was doing and could he help it? Is he a menace to himself or to others either as regards person or property? The legal standard of insanity not being the same in all these circumstances, these questions range themselves under four main headings, viz. :—

(1) Certification for care and treatment,
(2) Testamentary capacity,
(3) Civil liability,
(4) Criminal responsibility.

1. Certification for Care and Treatment

The procedure for England and Wales will be considered

first. This includes the Lunacy Act, 1890 (and its amendments), and the Mental Deficiency Act, 1913.

The Lunacy Act.—Not every person exhibiting disorder of mind is to be regarded, in the legal sense, as a case of insanity, and it is not every case of insanity that requires detention for treatment. Certification is, however, necessary in the majority of instances in the interests of the patient, and to comply with the lunacy law as at present constituted. There is unfortunately still a stigma attaching to certification which is quite unwarrantable, so that it is urged that temporary notification should be permissible, by amendment of lunacy legislation, for transient curable cases without the trammels of the existing formalities.

An insane patient requires protection of some kind to prevent his falling an easy victim to unprincipled persons; his misfortune, moreover, is apt to involve him in loss of money and property, and he is sometimes a possible source of danger to other people. Certification may be dispensed with in a patient, with ample means, if he can be managed in his own home without any form of restraint or loss of liberty. To promote recovery, however, it is generally necessary to remove a patient elsewhere, and if certifiably insane the requisite documents must be drawn up. A doctor or layman who receives such a case into his house for payment without these documents is liable to a prosecution by the Commissioners for non-compliance with the law. A conviction under Sec. 315 of the Lunacy Act, 1890, renders the person liable to a penalty not exceeding £50. Under the common law it is true that evanescent cases of Delirium Tremens can be restrained from doing themselves and others harm, but even then it is wise for the medical attendant to obtain a letter of indemnity from the relatives, in case of subsequent proceedings by the patient. A writ of *habeas corpus* can be taken out by any one in a case of illegal detention, and the person, when free, can claim damages for false imprisonment. Sec. 330 enacts that nobody shall be liable to any proceedings in pursuance of the Act, provided good faith and reasonable care have been shown. Certifiers are, therefore, to a great extent protected from malicious prosecutions; proceedings can generally be stayed on application to the High Court, and they can only

be taken by the patient within twelve months of his discharge.

The procedure for legalising the treatment of an insane person differs according to whether he is regarded as a pauper or a private patient. An attack of insanity entailing, as it usually does, loss of employment and considerable expense, must nearly always pauperise those in the working class of life. Their means are insufficient to pay the maintenance rate of a county (or borough) asylum, and the medical certificate is generally obtained at the cost of the rates. Although most county asylums receive private patients, but rarely are they admitted as such on a petition or urgency order. The patients are admitted as paupers, and if their means suffice they are transferred afterwards to the private class, without further certification. This occurs in about 2 % of these cases. The amount weekly charged as a rule is 21*s.* per week for out-county private patients, and 15*s.* for in-county ones, but the county of London only requires the bare maintenance cost—about 10*s.* 6*d.*—for a pauper patient to be transferred to the private class.

Pauper Patients.—In the case of a poor person whom a medical practitioner believes to be insane, the usual course is to inform the local relieving officer (or overseer), who makes all the necessary arrangements. His address can be ascertained at the union for the district, to which workhouse or infirmary the patient can be forthwith removed by him (or by the police), if the case is urgent. This is usually effected by what is called a "three-day order" signed by the relieving officer. His duty is within three days to give notice to a Justice having jurisdiction, who calls in a medical practitioner to examine the patient. If the practitioner signs a *Medical Certificate* specifying facts, that the patient is insane, and the Justice, after seeing the patient, is satisfied, he signs a *Summary Reception Order* which is accompanied by a *Statement* of particulars supplied by the relieving officer. The Justice, if unconvinced of the patient's insanity, may adjourn the case for any period not exceeding fourteen days, or he may make the order and suspend its operation for not more than fourteen days, during which time the patient can be detained in the workhouse, pending the arrangements made for his reception to an asylum, if still insane.

This is the usual method of dealing with a pauper patient. He is either sent to the county asylum on a Summary Reception Order, direct from his abode, or more generally to the workhouse infirmary first—by the means previously mentioned—and then to the asylum. If the relatives or friends wish to undertake the charge of a patient concerning whom a Summary Reception Order has been made, the Act provides that they can do so on condition that they satisfy the Justice or the Visitors of the asylum that proper care will be taken of him. Many Alcoholic cases are received in the union workhouses or infirmaries on a three-day order of the relieving officer, which is prolonged by a special certificate of the union medical officer for another fourteen days, during which time the patient often recovers and is discharged without any further procedure. The form of this certificate is different from an ordinary medical certificate, and it specifies that the accommodation in the workhouse must be sufficient for the patient's proper care and treatment. For prolonged detention in the workhouse a second medical certificate in similar form is requisite, as well as an order of a Justice. There are about 12,000 of such patients in workhouses, besides about 7,000 in the Metropolitan District (or workhouse) asylums.

In the case of an insane person wandering at large, *whether a pauper or not*, the same procedure of a Summary Reception Order is adopted through the relieving officer or the police.

Two Commissioners have also the power to call in a medical practitioner, and on his certificate, to order a pauper patient to be sent to an asylum—this procedure, however, is very rare.

In *criminal* cases a patient is sent from prison to an asylum on an order of the Home Secretary, and on the expiration of his sentence, if still insane, he has to be certified for further detention.

Private Patients.—In the case of an alleged insane person who is not a pauper but is believed to be neglected or cruelly treated, or is not under proper care and control, the police or relieving officer should be informed. They then notify a Justice, who directs two medical practitioners to visit and examine that person. If they certify him to be insane, the Justice, if satisfied, whether he sees him or not, can sign a Summary Reception Order for his admission to an asylum. Excepting this last provision and when an insane person is wandering at large, a

private patient is usually placed under care and treatment through the intermediation of his relatives or friends. The medical practitioner in attendance has probably been advising certification, and to him generally falls the lot to make the arrangements.

The necessary forms can be purchased from Shaw & Sons, Fetter Lane, E.C., or any other law stationers, or if it is proposed to send the patient to a private asylum or registered hospital, they can usually be procured from the Medical Superintendent of the Institution, or they can be in handwriting throughout. They consist of :—

The Petition and Statement.
Two Medical Certificates.
The Justice's Order.

If the case is urgent, requiring immediate action, an Urgency Order and Certificate can be utilised as a preliminary.

All these forms require the greatest care in filling up. Should omissions have been made the documents will be returned for amendment, in order to render them valid. In the Appendix (*vide* p. 322) will be found the forms for placing either a private or a pauper patient under care and treatment.

The Petition is a request to a Justice to grant an order for the reception of the patient to a particular house, private asylum, registered hospital, or public asylum. It should be signed by the nearest relative, provided the age is at least twenty-one years; he or she must have seen the patient within fourteen days of the presentation of the petition. If any other person signs the petition, the reason must be given. It has annexed to it a **Statement** (similar to that used for pauper patients), which also requires the signature of the petitioner or of some other person, containing various particulars concerning the patient, including the name of the usual medical attendant, if any. The petitioner must sign an additional clause, if one of the certificates is not signed by the usual medical attendant.

The Medical Certificates.—*Two* of these are necessary, the forms being practically identical with those for paupers. The certifiers must not be related to each other, or be partners or assistants one to the other. One of the certificates should,

wherever practicable, be signed by the usual medical attendant, unless he is to act as the visiting medical attendant to the patient in single care.

Neither certificate may be signed by any resident or visiting officer of the institution, or by any person who is to have charge of a single patient, or by any one interested in the payments on account of the patient, or by any near relative, partner, or assistant, of the foregoing. The certificates must be on separate sheets of paper, and the certifiers must each personally examine the patient, separately from any other practitioner, and at a time not more than seven days before the presentation of the petition to the Justice.

The marginal notes should be read, and the form carefully filled up, giving the full name, address, and occupation of the patient, and the date and place of examination. The certifier will observe that he has to specify that the patient is a person of unsound mind (or a lunatic or an idiot) and a proper person to be taken charge of and detained under care and treatment.

Facts indicating Insanity observed at the examination must be stated, such as the appearance and attitude of the patient, and any statements or actions which may be considered evidence of insanity sufficient to satisfy a magistrate. If delusions are present, their nature should be described in the words of the patient. The facts must be such as to bear cross-examination of the certifier in a law court. Indefinite or irrelevant statements, inferences and expressions of opinion should not be made. If a patient does not answer questions, this may in some cases be included as a fact provided others are also given. If his memory appears to be defective, a specific instance should be given. A woman may state she is pregnant or that she has recently given birth to a child; this may be a delusion, or it may be true. Again if a patient says he is ruined or that he has committed some crime, or if he makes accusations of infidelity against his spouse or says he is persecuted by a certain person, some qualifying statement should be added, such as "which is not the case," or, "which is a delusion." Facts, which the certifier has observed previous to the time of the examination, he may subjoin in a separate paragraph.

There is no need to fill in the space left for *facts*

communicated by others, if the certificate is strong enough. Most medical men, however, do so to reinforce a certificate. The full name, address, and occupation of informants must be mentioned. These communicated facts indicating insanity must be recent, but they need not refer to the date of examination by the certifier; they may be corroborative of the certifier's obtained facts or may be entirely different. Care must be taken that no ambiguity occurs in the use of pronouns. It should be made perfectly clear to whom they refer.

A clause provides for stating whether the patient is, or is not, in a fit bodily state to be removed. Finally, the certificate must be dated and signed; the date should not be later than seven clear days from the time of examination, and the signature of the certifier should be accompanied by his address, his full name having already been inserted in its proper place in the previous part of the form. To sign such a certificate a medical man must be registered, and must be in actual practice. No one can be compelled to sign a certificate, but with the protection the law now gives, few medical men raise any objection. It need hardly be mentioned that any one who makes a wilful misstatement in a certificate is guilty of a misdemeanour.

The Order authorising the patient's reception as a person of unsound mind must be signed by a judicial authority who uses his discretion as to his seeing, or not seeing the patient, after he has examined the petition, statement and certificates.

The judicial authority is either a Justice of the Peace, a County Court Judge, or a Stipendiary Magistrate. The usual custom is for the relatives or the medical attendant to take the documents to a Justice of the Peace, who has been specially appointed under the Lunacy Act. Justices who are willing to act are appointed annually, and a list can generally be seen at the local police station, or at the union, or at the office of the clerk to the magistrates. Any Justice, however, can sign the order, but it requires within fourteen days the endorsement of one specially appointed. Should the Justice wish to see the patient before making the order, he generally does so forthwith, if not he must appoint a time within seven days. After seeing the patient he has also the power to adjourn the matter for a period not later than fourteen days, or he may

decline to make the order, and dismiss the petition, giving his reasons in writing for so doing. The order when made must be executed within a week, or it lapses, unless suspended by reason of the patient being unfit to be removed. A patient received into an institution, or into single care, without having seen a Justice, has the right to see a Justice, unless the medical officer certifies to the Commissioners within twenty-four hours of the patient's reception, that it would be prejudicial to him to exercise this option.

The difficulty and loss of time frequently involved in finding a Justice to sign an order encourages many practitioners to make use of an Urgency Order.

Urgency Order.—This is an authority to receive a patient, which should, whenever practicable, be signed by a relative. When any other person signs an urgency order, the reason for so doing must be mentioned. It has a *Statement* of particulars annexed, which is the same as in a petition; this statement also requires signature. It must be accompanied by a *Medical Certificate* specifying facts indicating insanity in the usual form, but it has an additional *Statement by the certifier* in which some reasons for urgency must be given. It is sufficient to say that a patient is not under proper control, or refuses food, or is suicidal or violent, as the case may be.

The certifier must have examined the patient *within two clear days before his reception under care*, and the relative or friend who signs the urgency order must have seen the patient "within two days before signing the order," accordingly there may be an interval of some days between these two dates. Practically, it means that an urgency medical certificate lapses after two clear days, if the patient is not received under care. A relative seeing the patient last, say on Monday, March 17, need not sign an urgency order till Wednesday, March 19. The certifier need not make the examination on which he bases his facts until Monday, March 24, and he may date his certificate on that day (or on Tuesday, March 25, or Wednesday, March 26), assuming that Wednesday, March 26, is the latest day for the legal reception of the patient.

An urgency order practically remains in force a week only after reception, during which time the second certificate, the petition, and the judicial order must be secured, otherwise

the patient must be discharged—unless he wishes to stay as a voluntary boarder. One of the certificates may be a duplicate of that used for the urgency order.

To summarise the main differences in the ordinary procedure of placing a pauper and a private patient under care :—

Pauper Patient.	*Private Patient.*
Notice to relieving officer who informs any Justice in the district, and signs the Statement. The Justice has to see the patient, and calls in a practitioner. One medical certificate only is required to accompany the Summary Reception Order. In case of urgency, the patient can be removed to the workhouse by the relieving officer, police or overseer, on a "Three-Day Order."	Petition and Statement of relative or friend, who calls in two practitioners for medical certification, upon which the Justice (usually one specially appointed) makes the Order with or without seeing the patient. In case of urgency, the patient's relative or friend signs an Urgency Order and Statement, which has to be accompanied by one medical certificate with Statement for Urgency.

On recovery, a pauper patient is discharged by the committee of an asylum on the recommendation of the medical officer. The committee have also power to transfer a certified pauper from one asylum to another, or to board him out by contract. A private patient is discharged, whether recovered, relieved, or not improved, by the authority of the petitioner, by whom also he may be transferred elsewhere. Should the petitioner have died, or be incapacitated, another one may be substituted, or else the person who made the last payment may act instead, or again the discharge may be ordered by the Commissioners.

Appointment of Receiver.—A petitioner renders himself or herself liable for the maintenance of a patient while under care. Sometimes the patient has already given a power of attorney or has authorised some person to draw on his banking account. Strictly speaking, such transactions should cease on certification, and generally no arrangements have been made at all. The right course to adopt is for the petitioner to consult a solicitor so that a Receiver may be appointed under Sec. 116 of the Lunacy Act. This entails a medical affidavit to support the copy of the original certificates, which accompanies the summons taken out in chambers at the

Royal Courts of Justice before a Master in Lunacy, a copy of which summons has to be served at least seven days beforehand upon the patient; the latter usually raises no objection to the appointment of the Receiver. This procedure costs about £20 or more, and the receivership is cancelled on the patient's application after recovery. The affidavit of a medical man is usually required when a person has recovered and is fit to manage his affairs. A word of warning must be given as regards granting a *certificate of sanity* to any person except for some special purpose, and it should usually only be given after a repeated examination of the patient, and a careful consideration of his or her previous history, taking all the circumstances into account.

Chancery Patients.—In the case of a patient of considerable means who objects to a Receiver being appointed, a Judge in Lunacy may direct an Inquisition to be held before one of the two Masters in Lunacy, or before himself. The relatives may also apply for such an inquiry to be made with regard to a patient, provided good reason is shown. The procedure is expensive, and a patient may claim to be examined before a jury in open court or in private. Counsel may be employed, and evidence is received covering a period not exceeding two years beforehand. The medical witnesses on either side generally include experts who have signed certificates or affidavits regarding the patient.

The Court may find one of three verdicts :—

(1) That the person is capable of managing himself and his affairs.

(2) That he is capable of managing himself but not his affairs, or vice versa. The latter decision is practically never arrived at.

(3) That he is of unsound mind and incapable of managing himself and his affairs.

The last verdict is usual, and an Inquisition is mostly confined to cases unlikely to improve; but in the case of a patient who does recover, the proceedings are set aside by another legal process known as a *Supersedeas*.

In the case of a patient so found lunatic by Inquisition any previous certificates are thereby quashed. Committees of the

Person and of the Estate are appointed (who may be one and the same individual) and the patient is visited biennially by one of the three Lord Chancellor's Visitors (of whom two are medical and one legal). There are at present 472 Chancery cases, 187 of them being in single care, and for the latter the Commissioners' books need not be kept, but notices of reception and removal must be sent to the Lord Chancellor's Visitors, Royal Courts of Justice, Strand, W.C. When received in an institution, a written order must be obtained from the Committee of the Person, together with an "office copy of the order appointing such Committee," and the admission (and removal) must be notified to the Commissioners as in the case of other patients, as well as to the Lord Chancellor's Visitors.

Public Asylums.—These are the large county or borough asylums, about ninety in number, built and maintained out of the rates, the expenses of which are to a small extent refunded to the Guardians by the patient's relatives, whenever this is possible. The patients are nearly all of the pauper class. There is also a special asylum for the Army (at Netley) and one for the Navy (at Yarmouth), besides the two Criminal asylums (Broadmoor and Rampton).

Registered Hospitals for Mental diseases, of which there are fourteen in England, are managed by Committees, and are maintained by the charges paid by patient's relatives, by subscriptions and donations, and by endowments. They are larger than private asylums, and are mostly designed to undertake charitable work for private patients of the educated classes with small means.

Private Asylums are special establishments licensed by the Commissioners in the Metropolitan area, and by Justices in the Provinces. There are twenty in the former area, and forty in the latter. With the exception of two large "Houses" which accommodate paupers also, they are confined to private patients only and those mostly of the upper classes. The lay proprietorship has latterly almost entirely been superseded by medical control, and their privacy appeals to the public and profession alike.

Particulars as to registered hospitals, public and private asylums, can be obtained from the Medical Directory.

Voluntary Boarders of either sex are received for treat-

ment in registered hospitals and private asylums (but not in county or borough asylums); sometimes relatives or companions of patients are also admitted as such. Boarders must not be certifiably insane, and neither suicidal nor dangerous. They must be allowed to leave, if they wish, on giving twenty-four hours' notice. For their reception, application to the committee of a registered hospital is sufficient, but in the case of a private asylum, the applicant must write a letter beforehand to the Commissioners or Visiting Justices, which must be accompanied by a medical report.

Single Care.—This may be in the official charge of a person in the patient's own house, or in the house of a doctor or layman. There are at present about 540 of these certified cases, most of them being of the female sex. Under special circumstances the Commissioners grant permission for two or more certified patients in one house (Sec. 46 of the Act). If the practitioner attending the patient is to continue as the statutory medical attendant in single care, he must not be one of the certifying physicians.

Legal Duties of the Person in Charge of an Insane Patient.—With the exception of a Chancery patient in single care, it is necessary, within one clear day of the reception of a private certified patient, whether into an institution or not, to send notice, with a copy of the admission papers, to the Secretary to the Commissioners of the Board of Control, at 66 Victoria Street, S.W. In the case of an ordinary single patient full instructions will be sent from that office. A Medical Journal has to be kept (which can be procured from Shaw & Sons, Fetter Lane, E.C.), and has to be produced to any Commissioner when he visits the house or institution. If the person in charge of a single patient is a medical man, another medical practitioner has to visit the patient, and must send to the office the medical statement which is required not less than two days and not more than seven days after the reception of every patient. The medical attendant of a single patient has to visit the patient once a fortnight, and a medical report is necessary at the expiration of a calendar month after reception. The medical visits may be at longer intervals in chronic cases, by special permission from the central office. Notice of discharge on recovery or not, or of removal, or of death has to be

sent to the Commissioners within two days, and in the case of death, to the Coroner also. If the patient remains under care for a prolonged period, to prevent the original reception order from lapsing a special, *i. e.* continuation report must be sent not more than one month nor less than eight days before the expiration of the first, second, fourth, and seventh years respectively, and then at a similar interval before the expiration of every successive five years. These notices and reports are required in the case of every certified patient, whether in an institution or in single care. An extra report is also necessary in the case of a single care patient in the middle of January of each year.

With regard to the admission of pauper patients to asylums, notice has to be sent within a week to the Commissioners, together with a copy of the reception papers, and the medical statement.

A patient may be allowed forty-eight hours' leave of absence by the person in charge, or by the medical officer of an institution. For longer periods, or for trial, a medical recommendation and a letter of approval from the petitioner are requisite to obtain official consent from the Commissioners or Visiting Justices in private asylums and single care, or from the the committee of a registered hospital or county asylum. Permission is not usually granted to travel out of England or Wales.

If a patient escapes, or extends his term of absence without sanction, he may be recaptured within fourteen days. Due notice of both events must be sent to the Commissioners. A private patient can be transferred from one asylum or single care to another, on the order of the responsible relative or guardian, and with the consent of the Commissioners.

Seclusion, if resorted to—*i.e.* locking a patient in a room alone between the hours of seven a.m. and seven p.m.—must be recorded. Mechanical restraint, if ever found necessary to prevent injury to the patient or to others, must be likewise recorded. Only appliances permitted by the Commissioners may be used, such as a strait-jacket, special gloves, the wet and dry pack, etc. Ill-treatment, or wilful neglect of a patient is punishable by fine, or imprisonment, or by both, whilst any one conniving at a patient's escape is also liable to be fined. As to correspondence, patients' letters must be sent unopened to

certain authorities, including the Lord Chancellor, Secretaries of State, the Commissioners, the Visiting Committee, the Justice who signed the order, and the petitioner (Sec. 41). Others are sent at the discretion of the person in charge.

The Mental Deficiency Act, which comes into operation on April 1, 1914, will supersede the Idiots Act of 1886, under which about 2000 patients are cared for. Its scope is devised to include the congenitally feeble-minded and moral defectives, in addition to imbeciles and idiots.

Under this Act a person, who is a defective (according to the definitions already given in the Chapter on "Amentia"), may be dealt with by being sent to, or placed in, a certified house or institution for defectives, or placed in an approved home, or under guardianship.

This may be undertaken at the instance of the parent or guardian if the defective is an idiot or imbecile, *or* is under the age of twenty-one. Besides the statement of the parent or guardian, *two* medical certificates are necessary, one of which must be supplied by a practitioner approved either by the local authority under the Act or by the Board of Control, and in the case of the congenital feeble-minded or moral defective, must be countersigned by a judicial authority. Within seven days, notice of reception, with a copy of the documents, must be sent to the Secretary to the Commissioners of the Board of Control. Subject to certain provisions, the defective may be discharged at any time by the relative or guardian, and a special certificate is required at the end of the first year, and thereafter at the expiration of every five years, for the continued care of a defective.

A defective may also be sent to a certified house or institution or to a State institution on an *order*, if he is a person who is neglected or cruelly treated, or who is found guilty of a criminal offence, or who is liable to be sent to an industrial school, or is detained therein, or is detained in an inebriate or other reformatory, or in prison, or in an asylum, or who is an habitual drunkard, or who is in receipt of poor relief when pregnant or when giving birth to an illegitimate child, or in whose case notice has been given by the educational authority that a child over the age of seven is incapable of receiving benefit in a special school, or if at the age of sixteen such defective needs

further protection in a house or institution, or under guardianship. The order may be that of a judicial authority (who has seen the defective) on the *petition* of a relative or friend, or of an officer of a local authority, which petition must be accompanied by a statement, and *two* medical certificates, one of which must be from a practitioner approved either by the local authority or by the Board of Control (or a certificate that a medical examination was impracticable), or the order may be that of a Court or of the Home Secretary. Such orders require execution within a fortnight, and they last one year, when they can be continued, by a special certificate, which is thereafter requisite at the expiration of every five years. Notice of reception, with a copy of the documents, will no doubt have to be sent to the Board of Control, in whose hands also the discharge, transfer, or leave of absence, of such defectives is largely vested, but regulations are to be shortly issued by the Home Secretary for the proper working of the Act. The same rules as to restraint, correspondence, escape, etc., apply; also protection and penalties obtain under this Act as under the Lunacy Act, and a special clause relates to sexual immorality, procuration, etc. State institutions are to be inaugurated by the Board of Control; the eight voluntary idiot establishments are to be certified institutions under the Act and the local authority will receive as before a grant from the Central Exchequer (probably about 7*s*. per pauper defective). Approved homes can also be established for patients not under judicial order. These, with the certified houses, and institutions, are to be subject to visitation by the Commissioners and Inspectors of the Board of Control, and by other statutory Visitors.

Power is also given for the transfer of defectives from institutions for the insane to those under this Act, and vice versa, although presumably idiots and imbeciles can still be received in the institutions under the Lunacy Act as before. The judicial authority is the same as under the Lunacy Act, as is also the local authority, but at least two women are to serve on the special Committee of the latter. It devolves upon the local authority to ascertain what persons within their area are defectives, subject to be dealt with under the Act, and to provide suitable provision for them. It also becomes compulsory for the local education authority to ascertain what

children are defective, and to notify those who are unable to receive benefit or instruction in the special schools.

The Central Authority for the supervision of the insane and mentally defective is vested in the Board of Control, which consists of fifteen Commissioners—four medical, four legal members, and two women amongst them; the office of the Board is at 66 Victoria Street, S.W. Visits are made by them, or by their Inspectors and other Visitors to all asylums and houses receiving the insane and mental defectives. They have power also to prosecute for non-compliance with the Lunacy and Mental Deficiency Acts. They report annually to the Lord Chancellor, who is at present the supreme authority in all matters regarding the insane, and, through his Visitors and the Masters in Lunacy, has the protection of patients with property.

The student who desires further acquaintance with the existing legislation affecting the insane and mentally defective, should consult the Lunacy and Mental Deficiency Acts, which can be obtained from Eyre & Spottiswoode, East Harding Street, E.C.

The Channel Islands and the Isle of Man have each a separate jurisdiction in Lunacy. No magistrate's order is required for a private patient in these islands.

In Scotland, insane persons, and also idiots and imbeciles above eighteen years of age, whether private or pauper, are placed in institutions by an order of a Sheriff on a petition and statement, and two medical certificates, provided the latter are signed on the date of examination. In the case of a pauper, the petitioner is the Inspector of the Poor. An emergency order lasting three days can also be given by a relative or friend on one medical certificate. There are both public and private asylums. The former are called district asylums and are designed for paupers, whilst the Royal asylums compare with registered hospitals. A private patient deemed curable can be treated in single care for six months without formal certification on medical recommendation, provided the Scotch Commissioners are notified, a further extension for another six months being sometimes granted. The property of patients can be placed by the Court in the hands of a Curator. Uncertified persons who are prodigal or facile

can, in Scotland, be prevented from losing or giving away their property by the legal process known as Interdiction. Legislation has been recently provided for Mental Defectives similar to that enacted for England.

In Ireland, lunacy legislation is both cumbrous and archaic. Pauper patients are largely detained in prisons at first, and are then removed on warrants to the district or public asylums. There is, however, provision made for the reception of both private and pauper patients by means of a declaration before a magistrate, a certificate of a magistrate, clergyman, or poor law guardian, one medical certificate (which in paying patients requires the signatures of two medical men) and an obligation on the part of the relatives as to removal of the patient where necessary, and as to payment. Private patients are received in private asylums or in single care on the order of a relative, accompanied by one medical certificate, which must be signed by two medical men. In cases of urgency, one signature suffices, but a second is requisite within fourteen days. Inquisition proceedings resemble those in England. There is no special legislation for Mental Defectives.

The Inebriates Act, 1898.—An inebriate, who is not mentally defective, can only be detained in a retreat at his own request, and for a specified period of detention not exceeding twelve months. He must have signed the requisite document before a magistrate prior to his reception. This requires also a declaration before a Justice or Commissioner of Oaths to be signed by two friends of the inebriate that he is a proper subject for treatment; the prescribed forms can be obtained from any licensed retreat. Voluntary treatment without detention is, however, permissible. There is unfortunately no inebriate retreat for the destitute poor. A person who is an habitual drunkard, guilty of crime, or who has been convicted of minor offences four times in twelve months, may be detained in a certified or State inebriate reformatory for a term not exceeding three years. With certain modifications the Act applies also to Scotland and Ireland. Particulars as to retreats may be obtained from the Medical Directory.

2. Testamentary Capacity

The law presupposes that a person who makes a valid will should possess "a sound and disposing mind."

In the interpretation of this expression, however, it has been held that a patient may be certifiably insane, or even be a Chancery patient, and yet possess sufficient capacity to make a valid will, whilst a person not regarded as insane in the ordinary sense, may not have a sound and disposing capacity by reason of weakness or disorder of mind from various causes. Probate of a will is granted to the executors provided they show that the testator possessed adequate capacity, and had proper knowledge of the contents of the will and approved of them, and that the will was executed in due form.

In cases of dispute it must be said that the Court requires ample evidence to upset a will. It may contain strange sentiments, and legacies may be left disappointing expectant relatives, yet, if it was the patient's "will" so to do, and he possessed sufficient capacity to give instructions for the draft and for its execution, it will probably be pronounced valid. The law is such that, in the case of persons dying intestate, their property is distributed amongst their dependants and nearest relatives in what is considered a right proportion. The idea of making a will is, therefore, discouraged amongst the insane. Yet a certified patient who insists on making a will cannot be denied the right to do so, or to execute a codicil to a former will. These cases are very exceptional, and it is always wise to acquaint the legal guardians of such patients of these proceedings. There may indeed be grounds for disputing the will after death, and in any case testamentary capacity will have to be proved.

On the other hand, persons, who in other respects have been regarded as sane, have had their wills successfully disputed by it being proved that they were at the time "facile" and easily influenced. This may happen from bodily disease or infirmity, from old age, by reason of loss of memory, or from inability to express themselves intelligibly by speech, writing, or signs. Some cases of aphasia, however, may give evidence of competence. If the testator had delusions, it must be shown that they directly influenced or affected the disposal of the person's means. The same applies also to morbid suspicions and poisoned affections. A person may be highly endowed and capable of transacting business, yet, he may not be able to make a valid will.

No idiot, imbecile, or congenitally feeble-minded person of

mature years, *i. e.* a person mentally weak from birth or early life, can make a valid will, and the same disability applies to any person under the age of twenty-one years. A decision as to testamentary capacity is difficult for most medical men, especially in recurrent cases of insanity when a so-called lucid interval may exist, and a person wishes to make a will. It is unwise for a medical man to sign as a witness to a will in any doubtful case; thereby he implies that, in his opinion, the testator is competent. He should make himself conversant with the contents of such a will, and if asked to support it, he should make a careful examination of the testator apart from relatives. It may be best to see him more than once, and perhaps advise a consultation with another medical man. Careful notes should be made. He should be sure that the testator is not under the influence of alcohol or drugs, and that he is not unduly biassed by any one. He should test the memory for both recent and remote events. He should ask him if he has made a will before, and if so why he wishes to alter it? He should examine particularly for any indication of mental weakness, or disorder, and for unfounded suspicions against any of his relatives. He should satisfy himself whether the testator's likes or dislikes for certain relatives or friends are based on rational grounds, or are the result of mental disorder.

He should ascertain if he understands fully :—

(1) The nature of his act and its consequences, viz. that he is making a will to take effect after his death.

(2) The approximate estimate of the nature and extent of his property.

(3) The proportionate claims of his different relatives. He should find out if the testator can enumerate his relatives and realise those he is including and those he is excluding (if any). If he knows in what manner he is leaving his property, and if he can recapitulate the contents of his will.

Generally speaking, the four conditions that may interfere with a sound and disposing capacity for making a valid will are :—

(1) Morbid influence, by unfounded suspicions or insane delusions affecting the will.

(2) Impairment of the mental faculties by old age.

(3) Mental weakness from bodily disease.

(4) Congenital incapacity, *i. e.* idiocy, imbecility, or feeble-mindedness.

In cases of severe illness, sometimes a patient is anxious to make a will. The medical attendant should satisfy himself that the patient's mind is sufficiently unclouded to admit of his understanding the provisions of the will and of his being able to recapitulate them.

Disputed wills are generally tried before a Judge and Jury who will expect, from a medical witness, facts on which his opinion of the testator's competence or incompetence is based.

3. Civility Liability

Contracts.—In the case of an engagement to marry, the betrothal can be broken off if either party becomes insane. If marriage has taken place, either by ceremony in a church, or before a registrar, and if one of the parties can prove that either of them at the time of marriage was mentally disordered, and did not comprehend the contract and the nature of the duties and responsibilities pertaining thereto, it can be annulled in the Divorce Court; or again if it can be proved that one party did not know at the time of marriage of the other party's insanity, a decree of nullity can be obtained. When, however, insanity supervenes after matrimony, the contract cannot be dissolved by reason of mental disease only. Insanity also cannot be raised in defence of adultery, or other breaches of the marriage law.

Other contracts cannot, as a rule, be broken by reason of a person's insanity. If, however, a person is insane, or incompetent through drink, and incurs expenses or procures "necessaries," such liabilities are voidable at the instance of the insane or incompetent party, provided it can be proved that the other party was aware of his insanity or incompetence and irresponsibility.

Libel : Slander : Trespass and other wrongs by which one party is injured in person, character, or property by another, are not excusable on the ground of insanity. The insane person is liable, but a jury usually awards nominal damages only.

Witnesses.—An insane person's evidence is sometimes accepted in a law court, in which case it is left to the Judge and Jury to decide how far it may be regarded as reliable.

4. Criminal Responsibility

Punishment, deterrent and reformatory, should be, and is generally meted out according to the culpability of the prisoner. In the case of offences and crimes that are due to mental disease the existence of the latter is rightly regarded as a reason for absolving a prisoner whose insanity is really responsible for the act committed. The law with regard to the criminal responsibility of the insane is founded on answers to questions put by the House of Lords to the Judges in 1843. These questions arose from public feeling excited by the acquittal, on the ground of insanity, of MacNaughten who had shot Mr. Drummond, Sir Robert Peel's private secretary, believing him to be the Prime Minister himself. MacNaughten was a Paranoiac, who committed the crime to draw attention to his imaginary grievances. He was afterwards sent to Bethlem as a criminal lunatic, where he ultimately died.

These answers may be summarised as follows: That to establish a defence on the ground of insanity it must be proved that at the time of committing the act, the party accused was labouring under such defect of reason from disease of the mind, as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know he was doing what was wrong. This is the legal test of insanity as applied to criminal cases, the phraseology of which has been much assailed by the medical profession. There are undoubtedly insane persons who understand the nature and quality of their actions and can appreciate the difference between right and wrong, and yet who may not be able to control their morbid impulses.

An elastic interpretation, however, is generally put upon the expression "knowing" the nature and quality of an act and "knowing" that it was wrong, by most judges, and although the legal criterion is antiquated and unsatisfactory, justice on the whole is done. Insane persons are not hanged, and when committed to prison, their condition is soon recognised, and they are sent on to asylums.

The law, moreover, does not entirely exonerate an insane person for every offence that he may commit, but only for an act that would be permissible under certain circumstances in a deluded individual. If, on the one hand, the layman and jurist is apt to compare a prisoner with ordinary people, it must be remembered that, on the other hand, the medical man is inclined to compare him with diseased and disordered persons. There is no criminal heredity allied to insane inheritance, and no one of repute would give such evidence as to shield a culprit from the punishment that is his due.

When examining a prisoner, the medical man should make notes, which he will be entitled to refer to in the witness box. Questions should never be asked implying that the crime was committed by the prisoner, but the circumstances may be discussed, and it is as well that he should mention any of the prisoner's conversation, indicating insanity, in his own words. He should be on his guard against any feigned insanity or epilepsy. He should go at length into the prisoner's past history. Sometimes the judge will permit facts to be brought up as to the family history, if there be any neuropathic heredity—epilepsy, insanity, etc. Although it may not be strictly according to law, the judge may ask the medical witness (especially if he is an expert) for his opinion on the case, besides his statement of facts. It is, however, best for him to confine his attention to facts indicating the insanity of the prisoner, and not to give an expression of opinion as to responsibility, as this is a legal matter and, therefore, one which should be left to the jury.

A case having been sent for trial, the prisoner may be considered by the jury to be insane and unfit to plead, or his insanity may be raised as a defence in the later stages. If he is acquitted on the ground of insanity, or rather found guilty but insane, he is not allowed to go free but is sent to one of the criminal asylums, during His Majesty's pleasure. These are prison asylums for all classes, and here also are received insane criminals, *i. e.* convicts who have developed insanity; but as the accommodation is limited, many of the latter unfortunately have to be admitted to county asylums, and on their recovery are sent back to prison to finish their sentences.

Criminal offences amongst the insane occur mostly in early Paranoiacs, Melancholiacs, Puerperals, Alcoholics, Epileptics,

General Paralytics, Senile Dements, in cases of Impulsive Insanity (Psychasthenia) and of Moral Insanity (or Imbecility). The more common offences are assaults, attempted suicide, and indecent exposure. Cases such as infanticide, homicidal acts, arson, larceny, and sexual crimes, are usually sent for trial, as a police court has no power to deal with the defence of insanity. A magistrate does, however, sometimes dismiss a case and allow the patient to be handed over to the charge of relatives if the signs of insanity are unmistakable, and a guarantee is forthcoming that the patient will be placed under care. The evidence of the family medical attendant in such a case is always of the utmost service. In minor offences the inspector at the police station does not always enter a case on the charge sheet, and directs the constable to take the patient to the workhouse infirmary on a three-day order.

Moral Insanity (or Imbecility) is invariably a stumbling block to lawyers, who usually regard it as a physician's definition of unmitigated depravity, and fail to realise that insanity can exist without delusions. The mental standards of criminals vary, however, some being undoubtedly weak-minded, others not at all, and others again being on the border-line; in the last case opinions may differ, as to whether vice is, or is not, disease; whilst in the case of the weak-minded criminal, it must be pointed out that in all his actions he is not altogether to be regarded as irresponsible.

Drunkenness is by common consent considered no excuse for crime, but in the case of Delirium Tremens or Alcoholic Insanity the person is usually absolved. Larceny is sometimes committed by the insane, especially in General Paralysis and Senile Dementia. The theft is usually done clumsily, worthless articles may be taken, and are frequently given away again or lost. Although the condition known as Kleptomania exists, it must be confined within proper limits, and a neuropathic inheritance should be expected in a genuine case; a common thief does occur now and then in the upper classes of society, and such a one is deserving of punishment rather than of commiseration.

Fraud and embezzlement are but rarely resorted to by the insane. Indeed most offences committed by the insane are due to violence of some kind irrespective of any acquisitive

tendencies, whereas fully three-quarters of the ordinary criminal convictions are due to offences pertaining to earning a living by dishonest means.

Suicide may be accidental, impulsive, or intentional, and it may occur in a state of sanity or insanity. The practice of coroner's juries is to regard most suicides as of unsound mind. Thereby the feelings of the relatives of the deceased are comforted, and religious sentiments at the funeral obsequies are not disturbed. The law of self-preservation varies in its intensity in different countries, and the act is not always committed through motives that can psychologically be regarded as insane. Attempts at suicide, many of which are due to Alcohol, are punishable, but if insanity is manifest, the patient is usually handed over to the relatives to be placed under care.

CHAPTER XXIII

GENERAL TREATMENT

The treatment of insanity should be directed towards removing the causes, bodily or psychical, of mental derangement, and should have regard not only to the brain itself, but also to the whole body and its environment. In no department of Medicine is it more necessary to make a searching inquiry into the exact state of the physical health of the patient, and to treat any morbid diathesis or blood condition that may exist. Whatever the bodily ailment, be it the cause or the effect of the mental breakdown, it will reflect itself in the mental condition of the patient, and therefore the first consideration of one who professes to treat insane patients is to correct any departure from ordinary health. Nevertheless, it must be conceded that the brain does not depend on the rest of the body only, and that the healthy vitality of its mental functions requires suitable psychic stimuli from the environment, through the special sense organs. This applies, of course, to all diseases, but more particularly to mental disease, and there is this further difference between them, viz., that certain social and legal influences come into play, owing to the disordered conduct which a patient is liable to exhibit. Experience has shown, accordingly, that mental disease is, as a rule, best dealt with in special establishments.

The general treatment of insanity may be regarded from three aspects, viz., (1) Preventive; (2) Curative; and (3) the Care of the Chronic Insane and Mental Defectives.

1. Preventive Treatment

Although much insanity is acquired which might have been prevented, had prudence been shown by patients in avoiding Syphilis, and Alcoholic or other excesses; it is

submitted that insanity, for which there is no adequate explanation, does occur as an occasional variation in healthy stocks, but that nearly half the total number of cases are due to inheritance.

Without doubt many neuropaths might have been saved from actual insanity, if precautions had been taken in early life. From infancy onwards, many of them exhibit a restless and explosive nervous system, which shows itself in sleeplessness, excitability and ill-temper, with convulsions, night terrors, or somnambulism. Such children require medical supervision from the first, especially with regard to their diet, and they should not be exposed to any stimulating influences. They should be kept in the open air as much as possible—in the country rather than in towns, and they should be trained to regular habits, and be subjected to discipline more than ordinary children. Every child before the age of three years should be made to lie down for an hour or two before noon for the purpose of inducing sleep, and during the next few years should be made to rest after the mid-day meal. Much depends on the character of the mother or nurse in the proper upbringing of the child. Firmness with kindness is what is to be desired, and the child must be trained to obedience, having regard to its ultimate welfare, and must not be spoilt by weak-natured parents. Natural affection, therefore, should not be allowed to develop into morbid sentimentality. An only child should have the company of other children for part of the day to suppress its selfish nature, and to promote proper feelings towards others. Respect for elders should be inculcated into all children. It is to be remembered that the character of a child is in process of formation from the beginning, and that it is plastic to a degree, its future health and happiness depending largely on the moral training to which it is subjected. The influence of good or bad example is overpowering, considering how imitative a child is, and how early impressions leave their mark. Proper habits of thought, feeling and behaviour should be instilled, and all bad tendencies and signs of disorder should be promptly checked, and self-control established. The child should be taught from its own observation, and should be trained to use its hands and eyes, rather than have silly stories poured out to stimulate its infantile imagination.

Gradually its powers of attention and application should be fostered, but there should be no cramming of the memory, the accumulation of knowledge should proceed gradually by the method of association, so as to ensure a firm foundation for the future. On no account should the backward child be forced; it matters little whether it is late in walking and talking, as this is even better than premature development, or any precociousness. If the home influences are good, there is little need for schooling until seven years of age, although a kindergarten system at an earlier age is not without advantage, in some cases. School-life for boys, and even for girls, is on the whole better than home tuition, and it becomes imperative, if the parental influences are injudicious or morbid.

If the child shows any dullness or backwardness in learning, it may be advisable to have special tuition separately from ordinary children of the same age, but should it be defective, training in a special school will become necessary. The too forward child, on the other hand, should be suppressed. Slow but steady progress is better than brilliant spurts, and the gaining of prizes early in life often means a brain that blossoms too soon, only to fade away in maturity. It should be borne in mind also that mental and bodily development frequently alternate, and that lessons should be relaxed whilst the child is growing fast.

The question of sexual problems should be faced, as puberty approaches, and in most cases, parents should be more frank in imparting judiciously as much physiological knowledge as they happen to possess. It should be realised that masturbation, especially among boys, is largely due to evil suggestion, and that a little home chat has a salutary effect. Again, every mother should inform her daughter at the first onset of the menses, and rest should be enjoined at these periods. Healthy outlets for activities should be provided, with a diversity of interests and hobbies. Young people should be made as sociable as possible, and should take part in associated outdoor recreations and sports, which are conducive to self-control almost as much as other educative influences. Unless contra-indicated, a tepid or cold bath in the morning tends to harden the constitution; the young person should not be pampered, and be allowed to complain of a hard bed, but should be

trained to habits of self-denial and endurance of discomfort. The Boy Scout movement and School Volunteering are helpful in encouraging discipline and in instilling ideas of patriotism and manliness. Domestic economy should be included in the training of every girl, and both sexes should in youth be taught to swim. Punctuality is a virtue to be preached and practised. There should be no sitting up late at night, or getting up late in the morning, and regularity in taking meals, and in the performance of the natural functions should be enforced. Neurotics should feed up and become as fat as possible. All fads about diet should be discountenanced, as well as all taste for alcohol; tobacco-smoking should only be allowed after maturity, and then only in moderation. Introspective young people should be taken in hand at once and be made to take an interest in outside affairs. The nervously disposed should be kept away from prolonged Church services, prayers and fasts, and religious fanaticism should be promptly stopped. The reading of unhealthy novels or of other doubtful literature, and attendance at spectacles likely to excite the sexual passions, should be forbidden to young people.

To be ambitious is no evil, even to the nervous, provided that the estimate of their capabilities is not misjudged. Yet a quiet life with an assured income is better for such persons, than one of risk in seeking fortunes at home or in unhealthy climates. Too often may it be said that the right occupation in life has not befallen a person predisposed to insanity. There should always be certain holidays at regularly stated times, so as to ensure change of thought and scene, as a means of recreation.

The medical profession is sometimes consulted as to the marriage of persons predisposed to nervous or mental disorders. Mostly this occurs when advice is of little avail, as in matters of love the reason is in abeyance, and advice is only asked for as a matter of form. This question has to be considered from the point of view of both partners, and from that of any possible progeny. The strain of celibacy is undoubtedly to be reckoned with in some neurotic men and, moreover, the advantage of family life and its increased interests cannot be lost sight of, more particularly regarding women. A neurotic person should

not form a union with one similarly tainted, yet, such couples unwittingly attract one another, and these entanglements are difficult to unravel. When such marriages occur, similar sensitive natures are prone to jar on each other in the routine of domestic life, and unhappiness is a common result. Long engagements are bad for the nervously disposed, especially for girls; yet to marry in haste, on indifferent means with which to support a home, breeds discontent, and produces stress not easily to be glossed over. In the married state, during any phase of insanity, there can be no doubt that marital relationship should be rigidly debarred; and in remissions, and after convalescence, a word of warning should be given, both to men and women, to exercise prudence and temperance in this respect, as exhaustion is readily induced in both sexes, and in men in particular, whilst with women there is the further risk of pregnancy. A patient who has recovered from an attack of Confusional insanity, or Intermittent Mania or Melancholia, and has remained well for at least two years, cannot be entirely debarred from matrimony, but the other contracting party should be made aware of the previous illness. If a patient has had two attacks, the medical opinion should discourage any matrimonial alliance at all. It need hardly be said that persons with remissions from Delusional insanity, General Paralysis or Epileptic insanity should not be allowed to marry upon any account.

A person with one parent insane need not necessarily be prevented from contracting a matrimonial alliance on medical grounds; for ethical reasons, however, the blemish should not be concealed. The type of the insanity must be taken into account, and the general family stock considered, in estimating the risks. It might here be mentioned that certain advanced authorities, including Dr. Robert Jones and others, urge that chronic insanity should be legally regarded as a plea for divorce. This opinion does not, however, receive universal approval, and has not, therefore, so far been seriously entertained by the public at large. It destroys the highest ideals of the matrimonial tie, although perhaps tending to diminish immorality and illegitimacy. Moreover, the idea of possible divorce might be prejudicial to some insane patients.

If a predisposed person is threatened with an attack of

insanity, the first consideration is to make such a one give up his or her occupation, and secondly, sleep and change of scene must be procured. This frequently prevents a recurrence in one who has had an attack before. Puerperal patients who have recovered should not, as a rule, be allowed to become pregnant again, the risk is too great, and all exciting causes such as alcohol, or strain of any sort should be removed. At the menopause especially should care be exercised in the management of a person predisposed to insanity. The prevention of insanity on Eugenic principles is now much in the air, but facts are still wanting to justify dogmatic assertions as to matters of inheritance, and it is a question whether the continuance of the human species through individuals of the average level alone would be ultimately beneficial to the race. Cases of arrested mental development, and degenerates, should certainly not be allowed to propagate their species, neither should the insane, but it must be remembered that many of the latter spring from stocks from which the talented arise, and the wholesale surrender of such stocks might be distinctly prejudicial to the human species. After all, it may be said in a certain sense that neurotics are the salt of the human race.

2. Curative Treatment

The best chances of recovery in mental disease are obtained when a patient is treated early. Too often do the relatives timidly allow a case to go from bad to worse, so that valuable time is lost. This is done in the hope that the patient's liberty will not need to be interfered with, and that the brain will be restored by its own devices. Only in the milder forms of mental derangement is it possible to treat a case with any success whilst the patient continues his usual avocation. This, however, happens occasionally in some Melancholic and Psychasthenic cases, and in a few Alcoholic and Drug cases. Generally speaking, it is necessary for a mental patient to give up work, and to undergo a régime of supervision in which a nurse or trained companion plays an important part in carrying out the orders of the medical attendant.

In regard to a poor patient, some good can be done through

the medium of the mental department of a general hospital, or of an out-patient department of an asylum, if reliance can be placed on the relatives to look after him, but in many instances it is best to call in the relieving officer, so that adequate attention can be obtained at the union infirmary or the county asylum. The student must realise that mental disorders invariably run a longer course than most other disorders, and the sooner a poor person is removed from his home, the sooner will he recover, if he is a curable case. Ratepayers and even Justices are frequently tardy in recognising this fact.

In the middle and upper classes different courses are open. Sometimes change of surroundings, travelling with a companion, or a visit to a hydropathic establishment can be arranged, and is all that is required in mild cases, so long as there is no evidence of an acute attack coming on. A fresh environment with new faces frequently submerges morbid ideas. The presence of relatives, indeed, is not good as a rule; it reminds the patient of the scenes of his breakdown, and the influence of strangers is, therefore, much better. In more pronounced cases, proper nursing and attention can, in selected cases, be obtained in private care, yet even then there is not the same beneficent discipline as obtains in a registered hospital or private asylum. If certification is necessary, institution care is generally the best course to recommend with a view to expediting recovery, although the wishes of the relatives must be respected.

Single Care.—This is sometimes carried out in the patient's home if separate apartments can be procured, but the better plan is to rent a house, or to secure rooms, in country lodgings, or in a nursing home, or in the house of a doctor or layman. All of these methods entail more or less expense, especially if the case necessitates the attendance of several nurses, and the frequent visits of the practitioner.

The patient's rooms must be properly adapted if the case is acute or suicidal, and for safety, they should preferably be on the ground floor. Shutters should be used when necessary, and each window may require protection by placing furniture before it, or preferably it should be blocked by a screw in the sash, so that the openings at the top and bottom do not exceed six inches. Keys and bolts should be removed from the doors. Fireplaces should be guarded, projecting hooks should be

removed, and no weapons or things likely to be harmful, such as pokers, knives, scissors, hat-pins, cords, missiles, matches, medicines and poisons, should be left about. But little furniture, and as few ornaments as possible should be allowed in the bedroom of a destructive patient, and it may be advisable to have the mattress on the floor instead of on a bed. A commode should be provided, or if the patient is fit to use the closet, the bolt must be removed. In the case of a patient who tears his or her clothing, special strong nightdresses and blankets may be necessary, while in the case of a patient with defective habits, the mattress should be protected by a mackintosh covered by a small blanket, and a drawsheet should be used over the ordinary sheet. A rubber urinal may be advisable in the room instead of a chamber made of china. There should be a suitable garden for exercise, taking care that it contains no unprotected wells or ponds.

Private care may be sanctioned by the practitioner without certification in the patient's own house, or that of one of his relatives, provided no charge be made for maintenance, and no undue restraint be exercised. The nurses, male or female, should be properly trained for mental cases with asylum rather than, or in addition to, ordinary hospital experience. Notes and charts should be kept as to sleep and a daily record of the diet and treatment, and of the weight from time to time. The nursing staff should be sufficient, so that relief can be arranged for day and night duty. Nominally the nurses act under the instructions of the practitioner, but they should be regarded as the paid servants of the relatives of the patient, as in other diseases. The relatives must be held responsible for the treatment, apart from medical considerations, and sometimes it is advisable for the practitioner to obtain from them a letter of indemnity from any possible legal risks. The same conditions apply equally to a patient in a house that has been rented, or in lodgings, provided the responsible relative in authority resides there also. Should, however, the presence of a relative be impossible, unless the case be a mild or border-line one, the law must be complied with. This applies also when a patient is in a nursing home, or in the house of a doctor or layman, at a fixed charge. If certifiably insane, the requisite documents for single care must be obtained,

or the patient must be taken home, or better still, be removed to an institution.

The cases that can be sanctioned for single or private care are Puerperal, Alcoholic and other acute cases that are likely to have a short duration, or those likely to end fatally in a short space of time, some harmless Senile cases, or mild Dements, and some Adolescent cases, but it must be pointed out that their means must be sufficient. Unsuitable cases are chronic noisy and destructive patients, those with defective habits, or who are morbidly erotic, those who are very muscular and overpowering, and those with pronounced homicidal or suicidal tendencies, or who continuously refuse food. Most Paranoiacs, General Paralytics, and insane Epileptics are unfit for single care.

In the present state of public opinion, although institutions are more in favour than they were, there is still a stigma attached to certification which is wholly unjustifiable, and which the profession should do its utmost to combat. Certification, however, does incapacitate patients from signing cheques and legal documents, and frequently breaks partnerships and other agreements, so that in suitable cases the patient and the relatives are better pleased if recovery can be effected in uncertified private care. It is, moreover, unwise to press for certificates when the relatives are very averse, but the practitioner should never lend his support to any infringement of the law, and he should place the honour of his profession and the interests of his patient before all else.

It must be acknowledged that private care is fraught with more risks than institution care. Moreover, there is apt to be an inefficient medical supervision over the patient and the staff. The relatives are rarely helpful and sometimes they are interfering. In some single-care cases there appears to be a want of emulation, and patients do not try to get well. In other cases the system becomes monotonous after a time. A patient feels unable to ventilate his grievances outside his immediate sphere. Moreover, the association with insane persons is apparently sometimes even better than that with sane persons to promote recovery, whilst the impression caused by other patients leaving an institution when they get well, is distinctly beneficial. In private care the idea that the whole effort of a household is directed towards one individual,

serves occasionally to foster just those selfish and anti-social evils which are at the root of the patient's disorder. Many cases, however, begin with private-care treatment, and if it does not answer, the patient is moved later to an institution. Similarly, some cases that have passed through acute attacks in institutions are transferred to private care if they do not recover, provided they are quiet and harmless.

Institution Care.—The different kinds of institutions have already been referred to (*vide* p. 272). The vast majority of patients therein are certified, *i. e.* detained under care and treatment. In the private class, however, voluntary patients can also be received, except in public asylums (rate-supported asylums). It has been suggested that voluntary treatment should also apply to a pauper. This, at present, the law does not provide for.

Institution, asylum, or hospital care is practically the only form of treatment for a pauper patient, as home care is almost out of the question except at the outset. A pauper patient is, therefore, sent to the nearest public asylum (possibly to the infirmary first) and is later transferred to the county to which he is chargeable. The British asylums as such, are second to none in any country in the world. The buildings are commodious, they have large recreation and dining halls, employment and amusements are provided, their farms are good, their grounds attractive, and the discipline and morale are satisfactory. On the score of economy, and to meet the press of accommodation, asylums unfortunately have in later years been enlarged to an inordinate size, and the medical staff has not been increased in proportion. Still, the medical spirit is on the whole maintained, and in many instances it reaches a high standard of excellence for original work, and the treatment of patients is benefited thereby. In London, through the munificence of Dr. Maudsley, a mental hospital is shortly to be opened as a reception-house for acute cases of the London County. It will have a pathological laboratory attached, which will greatly help in the scientific investigation and teaching of insanity, and also afford opportunities for the most recent methods of treatment.

In the registered hospitals the patients are of the private and often of the upper class; in some of them, special villas

are provided, and also country or sea-side branches. Private asylums are mostly smaller in size, and form a medium between registered hospitals and single private care. Both in registered hospitals and in private asylums, more individual medical attention is able to be given to patients than is possible in public asylums. The medical staff is numerically stronger, supervision is closer, companions are engaged in addition to the nurses, recreations and amusements are more in evidence, excursions are provided, sea-side visits are arranged, and every endeavour is made to promote the welfare of patients. All are under official inspection, and there is little to choose between a registered hospital or private asylum except as regards size. Some patients do better in a large than in a small institution, and vice versa. From the point of view of the patient, or his relatives, the element of profit scarcely needs much consideration, whether such be spent on philanthropy by a committee, or in raising the salaries of the staff, or goes to reward individual enterprise. There is perhaps more privacy in a private asylum, and greater facilities for the visits of relatives than in a registered hospital. A quarterly payment in advance is generally expected by the committee of a registered hospital, which is not usual in a private asylum.

What is urgently wanted at present is a certain number of small mental hospitals properly endowed, in various parts of the country, so that private patients of the needy cultured class can be received at low rates, instead of being sent to public asylums, the existing registered hospitals not being able to afford to do more than a certain amount of charitable work.

Unlike pauper patients, who are always in the control of an asylum committee, private patients are in the hands of their respective petitioners, and they can be removed at any time, whether improved or not, so that no fear of undue detention by the institution need be feared. The only veto, which, however, is only a temporary one, so far as the medical officer is concerned, and is scarcely ever exercised, is in the case of an actively suicidal or dangerous patient who may be considered unfit to be at large, and yet whose relatives may be anxious for his discharge. On the other hand, should a private patient desire his discharge and the petitioner be unwilling to consent, ample safeguards exist in a doubtful case. A patient can always

have a private interview with the visiting Commissioners, and can correspond with them and with certain other authorities. Besides, there is the appeal to the medical officer, whose duty it is to send notice to the petitioner when a patient has recovered. A patient can then leave at the end of seven days, if his previous discharge is not authorised by the petitioner.

In the selection of an institution for private patients the question of means largely enters, the terms varying from about one to twenty guineas per week, according to the accommodation and attention required. It should not be too near the patient's home, so as not to interfere with his walks or drives outside, or be too far for the relatives to visit. Practically all are now well managed, patients frequently return voluntarily as boarders when a relapse occurs, and some recovered cases elect to remain as such, which speaks well for the treatment obtained. Most are in rural districts, with easy access to towns, and it matters little, as regards the course of insanity, whether a high or a low ground, or an inland resort or not, be chosen, although some influence on the bodily health may be achieved by climatic means. As much liberty and parole is given as is consistent with the patient's safety and welfare, and the open-door system has almost exceeded its limit. A convalescent patient leaving an institution generally does so on probation, a private patient usually having some intermediate change before returning to his home, or to his ordinary occupation.

The Rest Cure.—Separation from those influences and surroundings which obtained when the mental attack developed, is the first desideratum for successful treatment. The companionship of relatives of an insane patient, as has already been pointed out, invariably does more harm than good, moreover, the effect of the patient upon them is deleterious. As in other disorders, so in mental diseases, rest is to be enjoined in the acute stage, and, as has been mentioned before, the earlier a patient is placed under treatment the more hopeful is the result. Especially is rest indicated for Exhaustion and Stuporous cases, Acute Melancholiacs, and for most Maniacs in the early stages. This treatment is practically only contra-indicated in Neurasthenics, who are prone to form the bed habit, and in some abnormally introspective cases, and in

pronounced masturbators. The patient should be put to bed and carefully examined, and be placed in the charge of skilled nurses. He should be weighed, and a weekly chart of the weight should be kept. Cases with œdema of the legs should be kept in bed continuously at first. Emaciated patients may require the use of a water bed or air cushions. Other cases later on may be allowed to sit up for a while in the afternoons. Open-air treatment should be adopted as much as possible. Some cases benefit by occasional light walking exercise in the garden, if their pent-up energy requires it. This is better than massage, frictions, or artificial passive exercises of any sort. Thereby much restlessness and purposeless action, destructiveness, and noisiness may be averted. In spite of all that has been said in its favour, continuous bed-treatment does not suit all cases of recent insanity. Moreover narcotic drugs are then liable to be abused, even in institutions. Much tact must be exercised in the management of turbulent patients. There should be no struggling with a patient single-handed, and the nursing staff should be adequate. Seclusion may at times be necessary in very violent patients; if resorted to in the day time it must be recorded. For this purpose, a padded room has less risks than an ordinary room in subduing frenzied excitement, and such cases often do better there than when they are forcibly controlled by attendants, or restrained by chemicals. Mechanical restraint—in the form of a strait-jacket or padded gloves—is only rarely necessary in some patients who are extremely violent and are not safe to be secluded, or else are very suicidal, or who require it for surgical treatment. It must be entered in the official books.

Letters from and to relatives should be as few as possible during acute insanity. Likewise, it is best for them not to visit until the patient is better. As further improvement occurs, more exercise should be allowed, a good sharp walk being best for most cases, and later, outdoor games and recreations should be encouraged.

Baths.—This form of treatment is a valuable adjunct to the rest cure. Excitement is in many cases subdued by an occasional tepid bath, but more often by prolonged immersion in a warm bath (95° F.) lasting from half an hour to six hours or longer. In some instances a cold plunge bath may be ordered, in

which case its action is more pronounced; a spray or shower may also be used, with alternate hot and cold douches to the head and spine. Never under any circumstances should a bath be given as any form of punishment or as a surprise. Cold compresses or ice-bags to the head are efficacious in delirious cases. A sitz bath or a foot bath may be indicated in certain cases, and in others, daily sponging of the body should be adopted for cleanliness and, if need be, to reduce temperature. The wet pack is now rarely used, viz., wrapping a patient in a sheet wrung out of cold or hot water and enveloping him in blankets for half an hour or more; it induces perspiration, and it certainly has a calming influence, but in the treatment of a certified insane person it is regarded as mechanical restraint. Baths medicated by mustard, sea salt, etc., are but rarely necessary. Hot-air baths, light baths, and sun baths are occasionally of service.

Electricity.—This is best applied as the interrupted current passed from the light mains by means of a transformer through electrodes at each end of a warm bath. It is undoubtedly refreshing, but acts chiefly by suggestion as a beneficial agent. The faradic battery is useful in some cases in keeping the muscles in good tone; the galvanic, static, and high frequency currents do some good in neuralgia and in certain kinds of headache, and in the form of the electric brush, the faradic current has at times a good effect in Hysteria.

Diet.—This requires careful consideration. In acute cases, as a rule, the feeding-up principle should be adopted, with easily digested fluid diet—a pint of warm milk with two eggs given every three or four hours, with an intermission twice a day for the ingestion of a pint of beef tea or chicken broth with some fine breadcrumbs or toast softened therein, or of a pint of arrowroot, Benger's food, Robinson's groats, or if need be, of a cup of ovaltine, plasmon, or sanatogen. If the patient dislikes milk it may be flavoured with weak tea, or mixed with some other agent such as barley water, lime water, or aerated water. Some patients, especially old people, do better on small quantities often repeated, such as raw eggs, etc. It is of no use overloading a weak digestive system at the risk of causing vomiting, diarrhœa, and constipation. When vomiting is persistent, albumen water may be given or peptonising agents may be required. As the tongue and digestion improve, solid

food may be given gradually, at first finely minced-up vegetables with gravy, and then meat. Any diathesis present, such as Gout or Rheumatism, must be dietetically treated. The liquid food may be given in a strong china feeding-cup, or else in a horn cup, if the patient be inclined to violence. Sufficient time should be given for meals, and no bolting of food allowed, so that risks of choking may be averted. When the patient feeds himself, spoons and forks only should be allowed at first. In private patients silver knives should be used for safety, instead of steel ones, until all impulsive symptoms have disappeared.

Alcohol as a beverage is rarely to be given in insanity. In Exhaustion and Anæmic cases, however, half a pint of stout, or a glass of port wine, or of champagne, once or twice a day is frequently beneficial, and in some cases is most necessary. So also in Senile cases a peg of whisky, or brandy in water or milk assists the cerebral circulation and calms restless irritability. Hot toddy at night, moreover, helps to procure sleep. In those predisposed to Alcoholism, stimulants should, of course, be rigidly prohibited. The acutely insane should be encouraged to drink as much fluid as they will, to set the eliminatory organs in full working order.

Refusal of Food.—The diet of the insane should be served up so as to entice those with poor appetites. Frequently a patient can be induced to take his meals with gentle persuasion and coaxing. Many do not take enough from failure of volition. For most of these cases, feeding by the nurses is necessary, with ordinary food properly cut up, and if a glass is held up to the mouth, they will frequently drink. Some patients, who resist but feebly, will allow themselves to be fed with a spoon or a feeding-cup. Or they will sometimes swallow food by means of a funnel with a short tube passed through the nose to the pharynx. If, however, a patient is persistently taking too little food, or refuses it altogether, it is necessary to have recourse to forcible feeding. This contingency occurs more frequently in private patients than in paupers. Care should be exercised in ascertaining whether there is local disease to account for the refusal of food, and it is necessary to be cautious in feeding such cases.

Except as a temporary measure when there is gastric

disorder or persistent vomiting, it is seldom much good to resort to rectal feeding, as enough nourishment and fluid cannot be satisfactorily given in that manner in cases of insanity. Sufficient nurses should be available for forcible feeding. A sheet held over the patient for that purpose is not regarded technically as mechanical restraint; care should be taken that the chest movements are not impeded, and that the patient's ears are not bruised. Generally speaking, in difficult cases, it is best to feed a patient lying on a mattress, with the head slightly inclined forwards, but the sitting posture frequently answers well. One nurse's attention should be directed to holding the head firm, and in œsophageal feeding to keeping the gag in position. Besides the gag, a basin should be provided, a rubber tube affixed to a funnel, a small jug of water, some glycerine for lubrication, and, of course, the food to be administered, and any medicines to be added..

The Œsophageal Tube.—The stomach pump is never used now, but a soft rubber tube (No. 24 to 28), long enough to pass eighteen inches from the teeth. For this purpose, a gag (protected by rubber), of which many patterns are made, must be used. Care should be taken in separating the teeth not to produce any injury, and the gag must not be allowed to slip. In women the teeth are more brittle, and therefore, whenever possible, it is better to use the nasal tube. The tube, warmed and lubricated, may be guided past the epiglottis by the fore-finger, and if the pharyngeal reflex does not occur, a little water should be introduced through the tube as a stimulus, which usually answers well; when the patient swallows, the tube should be gently but quickly passed downwards. Should it enter the larynx, coughing generally occurs. Its entry into the stomach is usually accompanied by the escape of gases, and it is as well not to pass it farther for fear of setting up vomiting.

The food should not be cold, nor too hot; and if powders, medicines or stimulants are administered, they should be gradually poured into the funnel with the food. Although food of thicker consistence can be given, it is better to give eggs and milk, soups, arrowroot, etc., two pints two or three times a day being the usual quantity, and in prolonged cases, orange juice should be added from time to time. If food is regurgitated, the gag and tube should be instantly removed, and when

withdrawn it should be compressed to prevent any contents running out or being inhaled; when the vomiting has ceased, the tube may be passed again.

The Nasal Tube.—A soft rubber tube (No. 11 to 13) of similar length to an œsophageal one is used, with a funnel and the other requisites already mentioned, with the exception of a gag. Usually the nasal septum is deflected so that the tube passes more easily down one nostril than the other. After introducing it along the floor of the nose, as far as the pharynx, the patient should be asked to swallow; if no reflex occurs, a little water should be poured into the tube, which device is usually effectual. If the tube curls into the mouth, it must be withdrawn a little and another attempt be made. If it passes into the larynx and trachea, there is coughing, unless the pharynx and larynx are anæsthetic, and on listening the inspired and expired air can be heard. To be sure it is in the stomach or œsophagus, and that the lumen is open, a little water may be introduced before filling up the funnel with the food. A pint or more of egg and milk, etc. can be given three times a day. When the tube is withdrawn, it should be pinched to obviate any escape of food which might be inhaled into the trachea.

There is really not much to choose between the œsophageal and nasal methods of feeding. It depends largely upon the case as to which method should be adopted. The œsophageal tube takes shorter time, more food can be given, and semi-solids can be introduced, but it requires more nurses and the use of a gag, and regurgitation is a little more easy to produce. The nasal tube is more apt to become blocked, and if continuously used, it may cause irritation of the nasal mucous membranes. In all artificial feeding the mouth should be cleansed with mild antiseptic solutions each day, and an occasional wash-out of the stomach is also beneficial. Inhalation of regurgitated food into the lungs produces Pneumonia, but this seldom happens from tube feeding in experienced hands.

The Bowels and Bladder.—Regular habits in voiding the excreta should be established as far as possible in all insane patients. Some delusional cases do all they can to prevent an evacuation, whilst others constantly seek unnecessary relief. The excreta should be inspected in cases with visceral delusions,

or with Colitis, and for such examination a bedpan or night-commode is requisite. Constipation is very usual in insanity, and it requires similar treatment to that adopted in ordinary persons, viz. laxative diet, fresh fruit, morning saline draughts, Paraffin, Cascara, Liquorice, Aloin, Rhubarb, Senna, Enemas, etc. Only occasionally should Calomel, Colocynth, or other strong purge be given, and, as a rule, a larger dose is necessary than in sane persons. The state of the bladder frequently requires attention, and in every case the urine should be tested. Retention, with or without overflow, is common in Prostatic cases, Tabetics, General Paralytics, and in Hysteria and Stupor; it may require a hot bath, or a rubber catheter for its treatment, whilst ordinary incontinence may often be corrected by tactful management of the nurse. All catheterisation must be carried out with strict antiseptic precautions, and any trace of Cystitis should receive treatment by washing out, or by the administration of Urotropin. The fact that patients become wet and dirty is largely due to defective nursing, but, despite all care, some cases require a mackintosh and draw sheet at night, and destructive cases need a rubber urinal. Bedridden cases must be kept dry, the skin of the buttocks must be cleansed frequently, and the position changed at regular intervals. Local rubbings with a solution of zinc salts and spirit do good. Care should be taken that bedsores do not occur.

Masturbation.—This perversion of the sexual instinct sometimes needs special treatment, for its practice invariably retards recovery. It is usually associated with weak bodily health, and feeding up with fattening rather than nitrogenous diet tends to lessen the habit. The bowels should be kept open regularly, and the blood-pressure should be kept down. Cold baths and exercise are corrective, and close supervision with wholesome moral influence, is best to stop the evil. The patient's interest in open-air pursuits should be aroused. Local applications, such as blistering, or operative measures, are of no avail, and mechanical devices, which keep the patient's mind centred on the evil, are unpractical and useless. A dram of the liquid extract of Salix Nigra, or of Piscidia Erythrina, with Bromide and Camphor water in the evening, is sometimes beneficial, together with a nervine tonic in the daytime. This vice is mostly associated with nervous instability.

Suicidal Intentions.—These can best be prevented by continuous watchfulness on the part of the nurses. A card is usually issued which is signed by them, and is in the keeping of the nurse in charge; it has directions that the patient must always be kept under observation. For this purpose, he must be followed to the lavatory, and no medicines or poisons should be left about. All possible dangers must be guarded against, such as staircases, windows, fireplaces, etc., and the nurse should take care to see the patient does not pick up pieces of glass, or stones, which might be swallowed, or be otherwise utilised for self-injury, and does not have access to knives, scissors, pins, matches, etc. He should be searched at night, and he should not have possession of a handkerchief or any cords or tapes belonging to night clothing, and he should not be allowed to cover up his face under the bedclothes. Generally speaking, it is best to be open and to talk about any suicidal tendency, and as the patient improves, and the impulse disappears, to gain his confidence with a view of ascertaining how far he can be trusted and of obtaining a promise that he will not injure himself. No risk should be run by allowing a patient out for country walks whilst actively suicidal, for fear of injury from motors, trains, drowning, or of the possibility of escape. It is at the beginning of mental disorder, before volition is paralysed, and as improvement from an attack sets in, that most anxiety is felt as to a suicidal patient.

Insomnia.—In most recent and acute cases this is an urgent symptom, which demands special treatment, for undoubtedly some cases end fatally for want of sleep. A chart should always be kept showing the exact amount of sleep an acute case is having. Often such cases recover without having more than three or four hours natural rest each night, but no patient should be allowed to continue without any sleep for more than two nights. The previous habits as regards sleep should be taken into account, some people requiring more than others, whilst others again sleep more than they allow. Any underlying somatic cause for insomnia should be corrected, such as digestive errors, constipation, chest, kidney, or genito-urinary troubles, neuralgias, etc. The pulse is a fairly good indicator as to the state of the cerebral circulation, viz. its rapidity, volume, and tension, whilst a

blood examination will give an estimate of any anæmia and of any possible toxæmia, and the patient should be treated accordingly. In most cases, however, insomnia is due to an excess of fatigue products; diluent drinks should therefore be encouraged, and an occasional Mercurial purge followed by a saline draught should be given. Old people with a tendency to acidity are frequently benefited by alkalies. All stimulants such as coffee, tea, tobacco, as well as alcohol, and hypnotics should be given only by medical orders. The patient should retire to bed at a fixed hour, and sleep should be induced by auto-suggestion, having mental calm restored to him so far as is possible, by the removal of all emotional and ideational stimuli. Hypnotism is rarely of use in insanity to promote sleep.

Townspeople who are accustomed to noises sometimes become sleepless in the country and vice versa, but generally speaking, the bedroom should be absolutely quiet, well-ventilated, at a medium temperature, and darkened. The clothing should be sufficient, the feet should, if necessary, be warmed by a hot bottle and the head be propped up comfortably on a pillow. A bath before retiring to bed often promotes sleep, as does also some refreshment in the form of warm milk and biscuits, or some hot toddy, or a pint of stout, or using a pillow or bag of hops.

For the routine treatment of the condition, reliance should be placed on the general dietetic and open-air treatment of the patient, with the regulation of the functions of the body, the discontinuance of all work, and the removal of all possible causes of disorder.

Rarely is insomnia to be reckoned as a cause of insanity, although it is one of its most frequent symptoms, and if protracted it needs treatment by hypnotics when other means fail. Chemical restraint, however, if injudiciously applied, is as bad as or even worse than mechanical restraint, for the delicate structure of the cortex, and the blood, can be irretrievably damaged by powerful drugs. It is usually best to give a full dose at night, to be repeated after a short interval if necessary, in order to produce sleep, rather than to give potent sedatives in smaller doses continuously day after day. In private single care such drugs are no doubt required more than in institutions, and therefore the latter course of treatment has more advocacy

from a strictly medical point of view. By quieting a patient artificially it does not necessarily follow that any real benefit to him is obtained, so far as the mental disorder is concerned, at all events when it is fully established. The main purpose of hypnotics should be to restore the rhythmic habit of sleep, and thus to save the patient from exhaustion. In the early stage it is true that sometimes attacks are averted by such drugs, but they should be carefully chosen with due regard to the age and idiosyncrasy of the patient, and they should be changed from time to time.

It should be remembered how easy it is to establish a drug habit in some patients, and accordingly the practitioner should, if possible, avoid giving such prescriptions, or ordering tabloids that can be easily procured by patients afterwards without medical advice. In institutions, except at the outset of insanity, these drugs should be used as little as possible. Of those in general use the following may be mentioned.

Hypnotics and Sedatives.—*Paraldehyde*, ℥j to ℥iv given at bed-time in some emulsifying agent such as quillaia water, with a little syrup of orange, or stimulant, to allay its nauseous taste, is one of the safest hypnotics to be administered. It is a stimulant to the heart, it acts quickly, and produces deep sleep at first, which is followed by a natural state of unconsciousness for some hours. Its disagreeable exhalation unfortunately lasts during the following morning, and sometimes it disturbs the appetite, and with some patients, if frequently given, it irritates the bronchi.

Chloral Hydrate, gr. xx to gr. xl, also acts quickly, and should be given in bed. Its cardiac and respiratory depression should be noted, but its action is very satisfactory, especially in Alcoholic insanity. It should not be given to old people with fatty hearts, or to others with valvular heart or with lung disease, and it should only be given to General Paralytics with caution. It sometimes causes a craving, and a habit may thus become established. It is the main factor in the patent preparation of *Bromidia*, ℥ss to ℥ij (which contains also Bromide of Potassium, Hyoscyamus, Cannabis Indica, Aniseed, Syrup and water). *Chloralamide*, gr. xx to xl, is more in favour with Neurologists than Alienists. It produces sleep in some mild emotional cases.

Amylene Hydrate, ℥j to ℥ij, is fairly reliable, but expensive. It has a somewhat unpleasant taste, which, however, can be disguised by giving it with peppermint water.

The Bromides—of Potassium, Sodium, or Ammonium—are suitable for mild cases; of these compounds the Potash salt easily ranks first, in doses of ℥ss to ℥ij given with camphor or chloroform water, or the three salts can be given together. Of all sedatives they are probably the least harmful, given over a prolonged term if such is absolutely necessary, yet even they tend towards dementia and derange digestion, when given in full doses. If any acne spots supervene, they may be controlled by the admixture of two or three minims of Liq. Arsenicalis with each dose. The Bromides are also usefully combined with other soporifics, such as Tinct. Hyoscyami ℥ss to ℥ij, or Tinct. Cannabis Indicae ℥ss to ℥j, or Succ. Conii ℥j; or with Tinct. Digitalis ℥ss, which in such doses seems to have a calming influence on the cerebral circulation. The Bromides also prolong and intensify the effect of Chloral, Paraldehyde and Amylene Hydrate and are usefully prescribed with them.

Medinal, gr. v to gr. x, *Veronal*, gr. v to gr. x, and *Trional*, gr. xv to gr. xxx, are fairly tasteless powders and are all hypnotics in frequent use. They are best given in warm milk and act within an hour. Medinal is the most soluble and it suits sleepless Confusional cases in young people admirably. Veronal is less certain, but it prolongs insufficient sleep. Trional is efficacious both in young and in old people.

Sulphonal, gr. xx to gr. xl, is also a tasteless powder. It is not very soluble, and therefore should be given in milk. It has a delayed action, and it should be given four hours before retiring to bed. It has a cumulative action and keeps a patient quiet the next day, and if repeated on a second night, its effect is more pronounced. It is a motor depressant, and is therefore very useful in Mania. It suits old people well. Patients who are given this drug should, however, be induced to drink as much fluid as possible and the bowels should be kept open. For the toxic symptoms, which consist of muscular incoordination, speech defect, derangement of the appetite, and vomiting, equal parts of milk and lime-water should be given. In more pronounced cases Sulphonal has a destructive action on the blood corpuscles, resulting in hæmatoporphyrinuria, a

condition which may also be caused by Trional, and which generally terminates fatally. It should therefore be given with caution, especially to patients who are constipated. It is sometimes usefully combined with Trional, and thereby a more immediate effect is produced.

Opium, gr. $\frac{1}{2}$ to gr. ij, and *Morphia*, gr. $\frac{1}{8}$ to gr. $\frac{1}{2}$, are not so often given to the insane excepting agitated Melancholiacs, Alcoholic and other Confusional cases and some Paranoiacs. With other sedatives they are usefully combined in the form of Liq. Opii Sedativ, ℥ v to ℥ xx, or Liq. Morph. Bimeconat ℥ x to ℥ xxx with Belladonna, Bromides, etc. Care must be exercised in prescribing Opiates for the aged, or for those with kidney, lung, or liver disease. They dry up the secretions, and their constipating effect must be guarded against as well as their effect on the appetite. They are essentially given for the insomnia dependent on pain, exhaustion, and anxiety. The dangers of a drug habit must not be overlooked, especially if Morphia be administered hypodermically, which is rarely necessary or advisable.

Hyoscine Hydrobromate or Scopolamine., gr. $\frac{1}{100}$ to gr. $\frac{1}{75}$ hypodermically, or up to gr. $\frac{1}{25}$ by the mouth or rectum is a powerful motor depressant which should only be used for emergency purposes, and is then sometimes given with Morphia. It paralyses the motor-nerve endings, frequently confuses a patient, and does not cause healthy sleep. It sometimes induces visual hallucinations which terrorise a patient, the throat becoming parched, and the face pallid. It has a bad effect on the general nutrition, and is not to be recommended except for violent cases. *Hyoscyamine*, gr. $\frac{1}{75}$ and *Duboisine*, gr. $\frac{1}{100}$ have similar actions although less pronounced. Visual hallucinations are even more frequent with Hyoscyamine.

Urethane, gr. xx to gr. xl, is fairly tasteless and is very soluble. It produces light sleep and it can be given to children.

Adalin, gr. x to gr. xx, is safe but is nearly insoluble. It is both hypnotic and sedative.

Aspirin, gr. x, *Antipyrin*, gr. x, and *Phenacetin*, gr. v to gr. x, are sometimes given for the insomnia associated with nervous headache, etc.

Other Medicinal Treatment.—In treating the sleeplessness and restlessness of mental disease, it is more important to

have regard to the general bodily condition and health, and to correct, if possible, what is amiss, than to give sedatives and hypnotics that allow the causes to continue untreated. To this end all hygienic measures should be adopted, and seeing that much insanity is toxic in nature, patients should be encouraged to drink a sufficiency of water to flush out their systems.

Although it may be useless to think of treating a delusion or an emotional state by means of drugs, yet it must be borne in mind that the underlying brain disorder is often dependent on blood and other bodily conditions, which are amenable to medicinal treatment. Too often is it said of the asylum physician that he does nothing but house his patients in safe surroundings. The medical spirit should always be encouraged, even if a bottle of medicine is only the outward and visible sign of a process of suggestion which benefits the patient. Although over-drugging may be pernicious, it is certain that therapeutic scepticism or pessimism is to be deprecated. The primæ viæ, so frequently deranged, must be re-established. Constipation, so often a feature in insanity, has already been referred to. The appetite is generally improved by means of Nitro-Hydrochloric Acid and bitters, or by other stomachics. Attention should always be given to the state of the mouth, as carious teeth are frequently a source of toxæmic infection. The daily use of mouth washes should always be encouraged.

When there is much flatulence, or when the excreta are offensive, intestinal antiseptics are sometimes helpful, such as Salol, β-Naphthol, Bismuth Salicylate, the Lactic Acid bacillus or Sour milk, Paraffin, or in mild cases, Peppermint. The stomach is improved in toxic cases by a daily wash-out with Potassium Permanganate by means of the œsophageal tube. In others, also, the large intestine may be similarly flushed out *per rectum* from time to time. This is particularly necessary if there is any tendency to Dysentery, the infective variety being unfortunately common in some asylums. The bowel irrigation in such cases can be carried out by various disinfectants, *i. e.* Quinine, Izal, etc.

Bladder conditions have already been mentioned. Menstrual disorders are generally secondary to blood conditions, but the

flow can often usefully be promoted by hot sitz-baths and by emmenagogues. Any vaginal discharge should receive treatment by antiseptic douches, and it must be remembered that sometimes foreign bodies are introduced into the vagina by an insane patient (and occasionally even into the bladder), and require removal.

Conditions such as Gout, Syphilis, Anæmia, Diabetes, or Phthisis need treatment on special lines, whilst isolation is imperative for the last mentioned, and for Ulcerative Colitis (Asylum Dysentery).

Much may be done by judicious prescription of tonics when the acute symptoms of insanity have subsided. Amongst these may be mentioned Cod-liver Oil and Maltine, Syrup Hypophosph. Co., Quinine, Iron, and Arsenic. Strychnine, and Nux Vomica (or Easton's Syrup), should be given in small doses at first, and very cautiously to old people.

Latterly the Lymphoid Compounds (Glycero-Phosphates) and Organic Extracts have been given, from which much may be expected in Neurasthenia and Exhaustion states, but they are disappointing in Dementia Præcox and Organic Psychoses.

Vaccines have so far not been of much avail in conditions associated with insanity. The injection of anti-streptococcic serum in Puerperal cases, and of bacillus coli in some auto-toxic cases have sometimes been beneficial. Lewis Bruce reports good results from the production of leucocytosis by means of the subcutaneous injection of 2 c.cm. of Terebene, or of Cinnamic acid. Many insane persons mentally improve during intercurrent inflammatory disorders, and sometimes recover, so that treatment on these lines should not be altogether tabooed. In General Paralysis some patients improve by the injection of Nucleinate of Sodium or Nucleic Acid, by which again, leucocytosis is produced.

Thyroid, given in tabloids or as the powdered extract, is not only given for Myxœdema and Cretinism, but is a recognised form of treatment in Stuporous states, especially those associated with Melancholia. For this purpose it should be given in increasing doses for four days, viz. from gr. x to gr. xx *ter die*, and then be gradually diminished, and discontinued on the eighth day; the patient should be kept in bed, and the pulse and temperature watched. The patient looks ill

under the treatment and loses weight, but it produces mental disturbance which sometimes leads to recovery.

Of other drugs that are sometimes indicated may be mentioned those that reduce blood-pressure. Amyl nitrite acts quickly, but is somewhat too evanescent, while Nitrite of Sodium, gr. ij to gr. v, and Liq. Trinitrini, ℥ ij to ℥ v, though slower in action, have a more pronounced effect. The cases most frequently benefited by them are those of Melancholia associated with high arterial tension. However, the best drug for this purpose is, perhaps, Erythrol tetra-Nitrate, gr. ½ to gr. ij, in tabloids. The blood-pressure can, on the other hand, be raised in some cases of low nervous vitality by Alcohol—especially in the form of Champagne; by Digitalis, Ergotin, Pituitrin, Supra-Renal Extract, and by saline injections, the last mentioned being used in states of Collapse.

Urotropin, gr. v to gr. x, t.d.s., besides having almost a specific antiseptic action on the urine and bladder, acts probably in a similar manner on the cerebro-spinal fluid, for many General Paralytics are benefited by its administration.

Some mental diseases are associated with a feeble state of nutrition and with deficient chest movements. Lung troubles are therefore apt to occur, such as Bronchitis, Pneumonia, Pleurisy and Phthisis; frequently the symptoms are slight and the patient gives little indication of the nature of his illness. Stimulating expectorants are generally indicated. Other diseases are, however, often masked, such as Aneurysm, Cancer, Hernia—which demand special treatment. For the drug treatment of Epilepsy, General Paralysis, and of other conditions associated with insanity, the special Chapters must be consulted.

Surgical Operations, etc.—The insane usually take anæsthetics as well as do ordinary people, and for the most part, necessary operations can be performed without undue risks. In most cases, the consent of the patient should, however, first be obtained if he is not devoid of all volition and intelligence; the relatives should also be informed, and their sanction should be procured in serious cases. Sometimes mechanical restraint is required to prevent the dressings being interfered with.

Venesection and Transfusion are occasionally practised. Blisters behind the ears, and Counter-irritants are sometimes applied. Hæmatoma auris should be at once treated by painting it with Liq. Epispasticus, by which effusion is absorbed and cicatrisation minimised. The occurrence of Fractures, Accidental and Suicidal wounds, Strangulated Hernia, etc., renders a knowledge of Surgery a necessary qualification in every medical officer of an institution for the insane. Gynecological operations seldom do any good in insanity. Cases for trephining such as decompression are also rare in asylums. Seldom is there any real localising cerebral lesion in the insane. Again, removal of cerebro-spinal fluid to diminish tension is of little use, except in some cases of Meningitis. It is, however, important sometimes to examine the fluid for diagnostic purposes to see whether it is turbid or clear, and whether, microscopically, lymphocytosis is present, and whether there are any organisms in the sediment.

Lumbar Puncture.—This operation, which we owe to Quincke, is best performed by requesting the patient to bend forward over a chair in a stooping position, in order to separate the spinous processes as much as possible. Draw a line across the back at the level of the iliac crests which will pass over the 4th lumbar spine. This is well below the end of the spinal cord, as the latter terminates at the 2nd lumbar vertebra. A spot, $\frac{1}{4}$ in. below the 4th spine and to the side of the middle line, should be chosen, the skin having been cleaned and antiseptic ised. A 10 or 20 c.cm. glass syringe is required, with a hollow platinum needle and a stilette, 4 ins. in length, and the entire apparatus must be thoroughly sterilised by boiling. The stilette, being removed, the needle having been adjusted to the syringe, is thrust through the skin forwards and inwards between the laminæ towards the spinal canal, for a distance of $3\frac{1}{4}$ ins. in an ordinary person. Should it reach the body of the vertebra, it should be withdrawn a little. When the needle is removed from the syringe, if the fluid does not flow after a few seconds, the stilette should be re-introduced, as the lumen is sometimes blocked by blood; frequently gentle suction with the syringe is also necessary. The first few drops of fluid, if discoloured, should be allowed to escape. Then about 5 c.cm. to 10 c.cm. should be collected in a sterilised

test tube, which should be plugged with sterilised cotton wool. On withdrawing the needle, the skin should have collodion applied, and the patient should lie in the recumbent position for an hour.

Mental and Moral Hygiene.—This is the very essence of all successful asylum treatment, whilst it is also recognised as an important adjunct to medical treatment in most departments of practice. Patients cannot be regarded as mere receptacles for medicines or vaccines only, and "psychic" treatment must not be overlooked. The so-called influence of the mind on the body is in reality dependent upon the control of the cortical neurons over the lower neurons of the nervous system. Without entering into the possibility of telepathy, the influence of one mind on another mind in restoring abnormal association nerve currents to the normal is effected through the channels of the special senses and the higher motor mechanism. Much can be done in this matter through the personality of the physician, some medical men being happily gifted in this respect. A good deal depends on the tactful management of patients in general, and this applies particularly to the influence of nurses. The *tout ensemble* of an institution should have the loyal and enthusiastic support of the entire staff to promote the recovery of its patients. Psycho-therapeutics, or what embraces the mental and moral treatment of insanity, should be utilised, along with medicinal and other agents in the treatment of all cases.

In the exercise of moral guidance and control, be the patient ever so bad, it must be borne in mind that he is insane, and that severe measures are entirely out of court. The most that should be done is to withdraw privileges in some instances, in order to promote discipline and obedience to orders. It has already been mentioned that any one who ill-treats a patient, or wilfully neglects him, on conviction, is liable to fine or imprisonment.

Besides the effect of personality exerted mainly through conversation with the patient, the mental influences of occupation and environment have to be considered, both as regards the conscious and subconscious life of the patient. To both of these influences further reference will be made later. Normal occupation means the exercise of attention to a varying extent,

and this is wanting in many of the insane, who are already preoccupied in a morbid sphere of thought and activity. The isolation of the patient from relatives, and his removal to fresh scenes, experience teaches us as being most beneficial in establishing a fresh nexus of ideas. In taking a patient away from his home, no deception should be practised on him, and the physician and nurses should deal as frankly and truthfully with an insane patient throughout his illness, as with an ordinary individual. Nothing should be promised that cannot be faithfully carried out. What is now generally termed "suggestion" forms an important element in the cure of the patient. This is habitually used in the sense of conscious persuasion, as well as in that of unconscious mental influence, to which it should properly be applied. Improvement in symptoms and conduct should thus be suggested, and whatever amelioration occurs, should be indicated to the patient, and should be utilised to the best advantage in a helpful direction. Neither the medical attendant nor the nurses should be ruffled by words of abuse; they should regard such incidents as being merely due to mental disease, and should take no serious notice. Good manners and politeness towards the patient should be required of all people having care of an insane person. A cheerful countenance and a happy mood should be expected from every member of the staff. The physician should exercise patience, and listen to all statements, however wearisome, that an insane person iterates. He must show that he takes a real interest in his welfare; moreover, a fund of sympathy and fellow-feeling creates confidence in a patient, and is of good influence in treatment. Words of encouragement are comforting, and it should be remembered that many of the insane are abnormally sensitive and easily take offence, whilst others, differently constituted, can be treated with good-humoured satire.

The attitude towards delusions and hallucinations should vary in accordance with the temperament of a patient. Never, however, should he be allowed to think that his deluded beliefs are accepted by his medical attendant. It is usually best to ignore them as much as possible. Too much appeal to the disordered reasoning processes only serves to reinforce the disorder and to irritate a patient. When,

however, erroneous associations are not fully established, or are about to resume their normal course, a patient often is in a vacillating state, as regards his morbid ideas, and conversations with explanations sometimes do good, and in time he sees the mistakes he has made. Even some Paranoiacs are helped by the engrafting of normal ideas on old delusional trends of thought, by persuasion as well as suggestion, and their egoistic feelings may sometimes be modified by the constant reminder that they are much like other people; the majority, however, it must be acknowledged, are not affected by such means. What has taken years to evolve, as a rule, is not likely to be undone in a short time by this mode of treatment alone. With regard to Obsessional cases, and particularly those with morbid fears, "insight" is still present, and therefore a psychological examination into the production of such disorders with educated patients is not without benefit. For this purpose doctors and cultured companions are provided for the upper classes, but even the association of insane patients of the same class is often helpful, the one patient seeing the faults of others, and correcting his own disorder unconsciously or consciously.

Psycho-analysis, as it is called, has largely come into vogue in recent times. This comprises a critical investigation into the previous life of the patient, with a view to digging up suppressed morbid association complexes, which may be concerned with his present disordered state. It is, of course, only applicable to patients who are able to converse, and to enter intelligently into their cases. It has been largely studied by Freud of Vienna, and the subconscious mind of the patient is unveiled so far as is possible. Thus, the investigation of dreams sometimes throws light on the essence of a psychic trauma, which is at the root of the patient's morbid ideas and moods. Or laying open the past, by what is called "free association" may unconsciously reveal an exaggerated emotional bias concerned with some incident, trifling or important, that occurred years ago. The patient is asked to state every thought and word that casually occur to him. When nothing can be discovered by these methods, "word associations" have been utilised, according to the system of Jung, by which unconsciously the patient may give

a clue to morbid submerged complexes, which may possibly by argument and conversation be broken up. Thus the reaction word of the patient to each word uttered by the operator can, by its nature, or by the delay in response, put the investigator on the right course. Habitually about one to two seconds is an ordinary reaction, as timed by a stop-watch, but a word bringing to light a buried or repressed complex in conflict with the patient's usual nature, and therefore which has upset him, is marked by a prolongation of the reaction time, or by an absence of reaction owing to emotional stress. The process is a laborious and tedious one, and it has but small application to the majority of the insane, but such investigation bears fruit in some cases of Psychasthenia and Hysteria, and occasionally also in Dementia Præcox and Melancholia.

Psycho-analysis tends to unravel the growth of the sexual life, however, to an undesirable extent in some instances, if carried out minutely, and thus it may be harmful; consequently it has not received universal support. To investigate a case properly often takes an hour a day over a period of months. When a submerged morbid complex is discovered, it is not always possible to disperse it, and to re-educate the patient to normal habits of thought, frequent interviews, moreover, are necessary.

Hypnotism.—The hypnotic and the hypnoidal states are of little avail in insanity. In the first place, the attention of the patient is difficult to obtain, so as to produce these artificial states, and thus to influence him by suggestion, or to render him amenable to further psycho-analysis in the somnambulistic stage. Some insane persons can, however, be hypnotised, but they are generally of the border-line or Psychasthenic class, or they are Alcoholics or Drug-takers, or they are Hysterical cases. Frequent repetitions are necessary to do any permanent good, and the patient needs supervision for some time subsequently. Occasionally it is used in cases of obstinate insomnia with success.

Occupation and Exercise.—Although insanity necessarily impairs the volition of patients and deprives them of the power of sustained attention, yet it is the physician's duty, in all cases who have passed through the acute stages, to provide such employment, by work or amusement, as the patient's

status requires. For this purpose, regularity and routine are of the utmost value, and the influence of the good example of seeing others occupied is most useful. To promote mental health, exercise of some sort is necessary, and should be prescribed according to the nature and inclination of the patient. A due admixture of both mental and physical exercise is best for most individuals.

Amongst the poorer classes the provision for actual work is not so difficult for either men or women. The public institutions would indeed be a heavier expense than they are, if patients did not materially assist in the workshops, the farm and gardens, the kitchens and laundries, and in the wards. Moreover, entertainments and amusements, as a means of treatment, are instituted for them, and at the same time provide recreations for the staff.

For the better classes in institutions, or in private care, hobbies and occupations may be devised to interest the patient, including indoor and outdoor sports and recreations—cricket, football, golf, tennis, croquet, gardening, walking, riding, driving, bicycling, motoring, artificial exercises, billiards, cards, draughts, music and singing, painting and drawing, literature and science, typewriting and printing, translating foreign languages, photography, wood-carving, carpentering, basket-making, rug-making, crochet and needlework, etc.

Besides periodical theatrical and musical entertainments, occasional excursions of various kinds afford occupation and food for the mind. In some institutions exhibitions of art are arranged, to which patients contribute, and a magazine is published. The influence of music and of art must not be forgotten, especially in those people who are cultured. The formerly bare walls of our public asylums are now covered with pictures, and books and papers are provided, so that *ennui* should scarcely be possible. With regard to Church services, both from the religious and the disciplinary points of view, these are very valuable as a patient convalesces. Only in acute cases and in certain chronic Melancholiacs, Paranoiacs, and Epileptics are they harmful, and the visit of the Chaplain undesirable.

Social and Environmental Influences.—Some of these have already been included whilst considering the matter of

occupation. An insane patient should be encouraged to be as sociable as possible. It has become general for ladies as well as gentlemen to act as companions, and to associate with insane gentlemen when they are fit, and for female nurses to be engaged in nursing the male insane, except in some cases with objectionable tendencies. Such association of the sexes was at one time viewed with dismay and was thought to be impossible, but it is of the utmost value in instilling healthy notions of life, and in promoting recovery. Care must, of course, be exercised to guard against any abuse. Except in acute, and in some special cases, meals in single or private sitting-rooms in institutions should not, as a rule, be encouraged, as a patient thereby misses opportunities for improvement which association with others produces. The whole course of régime to be adopted for each individual patient should be ordered by the physician. The mental atmosphere should not be too stimulating, as thereby risks of relapses may be incurred; neither, on the other hand, should it be too stagnant, some patients being apt to get into a groove. Sometimes a walk in a town is more congenial than a ramble in the country. It may incidentally be mentioned that smoking, in men who are used to tobacco, is not to be discouraged; the habit usually soothes, and breeds a happy content. As a patient convalesces, he should be trusted on his parole without a companion, and there should be no undue haste in procuring his discharge.

The *after-care* of patients should always be considered, and no person after a severe attack of insanity should, as a rule, return to the avocation by which he gains his livelihood for some months. In the poorer classes, however, this is often impossible, but some asylums have a fund from which they are able to help recovered patients, in addition to any small sums the Guardians are able to grant. There is also at Dean's Yard, Westminster, the office of the After-Care Association, a philanthropic body which provides not only clothing and money, but temporary homes, for starting afresh in life patients who are recommended to it. A similar Association is urgently required to assist those on the verge of a breakdown, especially for the incipient insane amongst the poor. In the upper classes an intermediate change, or travelling,

is the best course to adopt after discharge, before returning home.

3. The Care of the Chronic Insane and Mental Defectives

It cannot be said truthfully that a patient never recovers after many years of insanity, yet, such an event is a rare occurrence; most cases that get well do so, as a rule, within two years. On economical, and other grounds, it has been realised that many of the requirements of the recent and acutely insane are not necessary, and indeed are not altogether suitable, for chronic cases. For the latter there is not so much need for supervision by nurses, and the medical visitation, although it cannot ever be dispensed with, need not be so frequent. At Gheel the farming-out principle has been in vogue for ages, and in Scotland it has been the custom for some years to board out many of the pauper insane, amounting even to one-fifth of the whole number. The crofters and others are glad to obtain thereby a small pittance, and the system induces patients to take an interest in the doings of the sane, which is good for them. It also serves to stay the necessity for so much building of institutions. Inspection, of course, has to be carried out, and any tendency to abuse needs removal by stringent measures. In England, although legally permissible, complications exist so that such treatment has not met with favour, and persons willing to undertake the charge of insane patients at nominal rates are scarcely to be found. Superintendents, perhaps, are not too anxious to part with those patients who are able to work and thus to relieve the institutions (and ratepayers), which may be another reason. Although acute and recent cases are to some extent removed from chronic cases in most of the newer asylums, the same facilities are not always possible in the older barrack ones, to the detriment of both classes. It is hoped that more asylums on the Villa or Colony system will be instituted, where patients can earn a quasi-livelihood, and yet be under some form of control. The treatment of a good many mild dements chiefly consists in disciplining them to regular habits of life, and when they conform thereto, they can frequently be managed outside an institution, and are capable of manual work. Some, of course,

are so defective in their habits that continual supervision is always requisite, whilst others who are noisy and impulsive cannot be treated away from an asylum. The more asylum life is bereft of any prison element, and the more it is approximated to home life, the happier are the patients and the better it is for them. For the criminal insane, State institutions are necessary, and their surplus should not be sent to county asylums, as is the case at present.

For idiots, imbeciles, and the congenitally feeble-minded, permanent educational homes and institutions under medical management are required, together with special physical drills and workshops. They should not be housed in the county asylums. Many of these patients are improvable and are able to learn handicrafts under supervision, but few are ever able to take their place in the outside world, as their training has to be continuous. Their diet and manner of eating require regulation, and their wet and dirty habits, as in the case of many dements, also need correction. With them, in particular, the withdrawal of privileges acts as an incentive to good habits, but, no punitive measures should ever be countenanced. It is hoped that besides idiots and imbeciles many of the feeble-minded and moral defectives will be placed in approved homes, certified houses and institutions, under the Mental Deficiency Act, and not, as hitherto, be allowed to drift without any supervision.

In the upper classes, when a patient has passed through his acute attack, and does not recover in spite of all that is done, a change to another institution is sometimes recommended. Better it is, as a rule, for a patient to have changes with special supervision under leave of absence, as thereby he does not feel he is considered a hopeless case. If a patient is suitable for single care, and he can afford it, or if he prefers it, this should be arranged; but it must be borne in mind that sometimes a patient becomes further deranged under such circumstances, owing to lack of discipline and routine, and he has to return to an institution. Some cases improve so as to be able to live at home, others, especially females, can live in religious communities. The chronic insane of the upper classes mostly, have an annual sea-side visit which promotes their bodily health, and the change of scene is good

for them, yet many are glad enough to return to what they regard as their home in institutions. This is to be remembered when transfer is suggested in the case of any one who has lived for years in one course of routine; especially in the aged does such a change invariably do harm, as the patient often dies soon after.

Conclusion.—The student will find that the subject of Mental Diseases embraces some of the deepest problems that can be encountered, and that its study is of the profoundest interest. The elucidation of acute mental disorders needs all the knowledge he can attain in the sciences of anatomy, physiology, chemistry, bacteriology and pathology: the unravelling of the laws of heredity requires much patient investigation, and the analysis of mental cases involves a sound knowledge of psychological methods; whilst, as has already been mentioned, the symptoms of bodily disease in the insane being so often latent, his clinical aptitudes should be of the highest quality to enable him to detect such disease, and thus to be successful in its treatment.

Moreover, the practice of Psychiatry calls for the play of humanity, in addition to scientific investigation, and in no branch of Medicine are qualities of heart, as well as of head, more requisite than in the management of the insane. In general practice, or in whatever path of professional life the student is destined for, he will be likely to find himself confronted with a mental case. This may tax his resources to their utmost, unless he has given due attention to the subject in his student days. If, on the other hand, he makes the study and practice of Psychiatry his special work, it will bring with it the satisfaction of taking part in the progressive movement for the prevention of mental affliction, for its cure when possible, and for its care when recovery is impossible. This movement is attracting the increasing attention of the profession and of the public alike, and much is to be expected in the near future from the steady advances in our knowledge.

APPENDIX

The following are the Reception Forms for England and Wales. (The characteristic differences in the Reception of Patients in Scotland and Ireland, and under the Mental Deficiency Act, are mentioned on pages 275–278.)

A.—Private Patients.

(*a*) *Two* Medical Certificates.
Petition and Statement of Relative.
Order of Justice.

(*b*) Urgency Order and Statement of Relative.
One Medical Certificate with Statement for Urgency.

B.—Pauper Patients (or *any* insane person Wandering at Large.)
Summary Order of Justice and Statement of Relieving Officer.
One Medical Certificate.

The notes on the fly-leaf of a Medical Certificate are :—

Two Medical Certificates on separate sheets of paper are required in support of a Petition for an Order for the Reception of a Private Patient. One of these Certificates should, whenever practicable, be under the hand of the usual Medical Attendant (if any) of the alleged lunatic.

Each of the Medical Practitioners who signs a Certificate must personally examine the alleged lunatic separately from the other, and not more than seven days before the presentation of the Petition.

Neither of the certifying Medical Practitioners may be the father or father-in-law, mother or mother-in-law, son or son-in-law, daughter or daughter-in-law, brother or brother-in-law, sister or sister-in-law, partner or assistant of the other of them.

One Medical Certificate is sufficient in the case of an Urgency Order. In such case the certifying Medical Practitioner must personally examine the alleged lunatic not more than two days before reception. The certificate may be signed either before or after the Order.

The following persons are disqualified for signing Certificates :—The Petitioner ; the person signing the Urgency Order ; the Superintendent, Proprietor, or Medical Attendant of the Asylum, Hospital, or House ; any person interested in the payments on account of the Lunatic ; or the husband or wife, father or father-in-law, mother or mother-in-law, son or son-in-law, daughter or daughter-in-law, brother or brother-in-law, sister or sister-in-law, partner or assistant of any of the foregoing persons.

Persons signing Medical Certificates will not be liable to any civil or criminal proceedings if they act in good faith and with reasonable care.

CERTIFICATE OF MEDICAL PRACTITIONER

In the matter of_____

(*a*) *Insert residence of patient.*
(*b*) County, city, *or* borough, *as the case may be.*
(*c*) *Insert profession or occupation, if any.*

of (*a*)_____
in the (*b*)_____
(*c*)_____
an alleged lunatic.

I, the undersigned_____
do hereby certify as follows :—

1. I am a person registered under the Medical Act, 1858, and I am in the actual practice of the medical profession.

(*d*) *Insert the place of examination, giving the name of the street, with number or name of house, or should there be no number, the Christian and surname of occupier.*
(*e*) County, city, *or* borough, *as the case may be.*
(*f*) *Omit this where only one certificate is required.*

2. On the_____day of_____19
at (*d*)_____
in the (*e*)_____of_____
(separately from any other practitioner) (*f*) I personally examined the said_____

(*g*) A lunatic, an idiot, *or* a person of unsound mind.

and came to the conclusion that he is (*g*)_____
and a proper person to be taken charge of and detained under care and treatment.

(*h*) *If the same or other facts were observed previous to the time of the examination, the certifier is at liberty to subjoin them in a separate paragraph.*

3. I formed this conclusion on the following grounds, viz.—
(*a.*) Facts indicating Insanity observed by myself at the time of examination (*h*), viz. :
_____
_____

(*i*) *The names and Christian names (if known) of informants to be given, with their addresses and descriptions.*

(*b.*) Facts communicated by others (*i*), viz._____
_____
_____

4. The said_____
appeared to me to be*_____in a fit condition of bodily health to be removed to an asylum, hospital, or licensed house. (*k*)

* *Or* not to be.
(*k*) *Strike out this clause in case of a patient whose removal is not proposed.*

5. I give this certificate having first read the section of the Act of Parliament printed below.

(Signed)_____
of (*l*)_____

(*l*) *Insert full postal address.*

Dated this_____day of_____19

Extract from Section 317 of the Lunacy Act, 1890.

LUNACY 8.

(53 Vict. c. 5, ss. 4, 11, 16, 28, 29.)

Any person who makes a wilful misstatement of any material fact in any medical or other certificate, or in any statement or report of bodily or mental condition under this Act, shall be guilty of a misdemeanour.

(SEE ALSO NOTES ON FLY-LEAF.)

PETITION FOR AN ORDER FOR RECEPTION OF A PRIVATE PATIENT

In the Matter of _____

a person alleged to be of unsound mind.

(a) —— a justice of the peace for ——, *or* his honour the judge of the county court of ——, *or* —— stipendiary magistrate for ——.

To (a) _____

_____

The Petition of _____

(b) *Full postal address, and rank, profession, or occupation.*

of (b) _____

in the County of _____

(c) At least twenty-one.

1. I am _____ (c) years of age.

2. I desire to obtain an Order for the Reception of _____

(d) A lunatic, *or* an idiot, *or* a person of unsound mind.

_____ as (d) _____

(e) Asylum, *or* hospital, *or* house, *as the case may be.*

in the (e) _____ of _____

(f) *Insert a full description of the name and locality of the asylum, hospital, or licensed house, or the full name, address, and description of the person who is to take charge of the patient as a single patient.*

situate at (f) _____

3. I last saw the said _____

at _____

(g) *Some day within 14 days before the date of the presentation of the petition.*

on the (g) _____ day of _____ 19

(h) *Here state the connection or relationship with the patient.*

4. I am the (h) _____ of the said _____

[or if the Petitioner is not connected with or related to the Patient, *state as follows:*—]

I am not related to or connected with the said _____

_____

The reasons why this Petition is not presented by a relation or connection are as follows :—

LUNACY, Nos. 1 & 2.

(53 Vict. c. 5. ss. 4, 5, and Sched. II., Form I., with (No. 2) Statement.)

The circumstances under which this Petition is presented by me are as follows :—

5. I am not related to or connected with either of the persons signing the certificates which accompany this petition as (*where the petitioner is a man*) husband, father, father-in-law, son, son-in-law, brother, brother-in-law, partner, or assistant (*or where the petitioner is a woman*), wife, mother, mother-in-law, daughter, daughter-in-law, sister, sister-in-law, partner, or assistant.

6. I undertake to visit the said _____ _____ personally, or by some one specially appointed by me, at least once in every six months while under care and treatment under the Order to be made on this Petition.

7. A Statement of Particulars relating to the said _____ _____ accompanies this Petition.

If it is the fact, add: 8. The said _____ has been received in the (*i*) _____ under an Urgency Order dated the _____ _____

(*i*) Asylum, *or* hospital *or* house, *as the case may be.*

The petitioner therefore prays that an Order may be made in accordance with the foregoing Statement.

(*k*) *Full Christian and surname.*

(Signed) (*k*) _____ _____ _____

Date of Presentation of the Petition, this _____ day of _____ 19

STATEMENT OF PARTICULARS referred to in the Annexed Petition

If any Particulars are not known, the Fact is to be so stated

[Where the patient is in the Petition described as an idiot, omit the particulars marked *]

The following is a Statement of Particulars relating to the said _____

Name of Patient, with Christian Name at length - _____

Sex and Age - - - - - - - - - _____

* Married, Single, or Widowed - - - - - _____

* Rank, Profession, or previous Occupation (if any) - _____

* Religious Persuasion - - - - - - - _____

Residence at or immediately previous to the date hereof - - - - - - - - - _____

* Whether First Attack - - - - - - _____

Age on First Attack - - - - - - - - _____

When and where previously under Care and Treatment as a Lunatic, Idiot, or Person of Unsound Mind _____

* Duration of existing Attack - - - - - _____

Supposed Cause - - - - - - - - - _____

Whether subject to Epilepsy - - - - - _____

Whether Suicidal - - - - - - - - _____

Whether Dangerous to Others, and in what way - _____

Whether any near Relative has been afflicted with Insanity - - - - - - - - - - _____

Names, Christian Names, and full Postal Addresses of one or more Relatives of the Patient - - _____

Name of the Person to whom Notice of Death to be sent, and full Postal Address, if not already given _____

Name and full Postal Address of the usual Medical Attendant of the Patient - - - - - _____

(Signed) _____

When the Petitioner or person signing an Urgency Order is NOT the person who signs the Statement add the following particulars concerning the person who signs the Statement.

Name, with Christian Name at length _____

Rank, Profession, or Occupation (if any) _____

How related to or otherwise connected with the Patient ... ... _____

When neither Certificate is signed by the usual Medical Attendant

I, the undersigned, hereby state that it is not practicable to obtain a Certificate from the usual Medical Attendant of (*a*)

(*a*) Name of patient.

_____

for the following reasons, viz. :—

(*b*) To be signed by the petitioner.

(Signed) (*b*)_____

_____ 19

When a previous Petition has been dismissed

53 Vict., c. 5, s. 7 (4).

I, the undersigned, hereby state that a former Petition for the Reception of (*a*)_____

(*a*) Name of patient.

into (*b*)_____

(*b*) Name of asylum, hospital, licensed house, or single charge.

was presented to_____

(*c*) _____

(*c*) Justice of the peace for —, *or* judge of county court of —, *or* stipendiary magistrate for —.

in the month of_____, 19 , and dismissed.

Herewith is a copy (furnished by the Commissioners in Lunacy) of the Statement sent to them of the reasons for its dismissal.

(Signed)_____

_____ 19

ORDER FOR RECEPTION OF A PRIVATE PATIENT

To be made by a Justice appointed under the Lunacy Act, 1890, Judge of County Courts, or Stipendiary Magistrate.

I, the undersigned _____

(a) A Justice for —— specially appointed under the Lunacy Act, 1890; *or* the Judge of the County Court of ——, *or* the Stipendiary Magistrate for ——.

being (a) _____

_____

upon the petition of _____

(b) *Address and occupation.*

of (b) _____

in the matter of _____

(c) *Or* an idiot, *or* person of unsound mind.

a Lunatic (c) _____ accompanied by the Medical Certificates of _____

and _____

(d) *Name of petitioner.*

hereto annexed, and upon the undertaking of the said (d) _____

_____ to visit the said

_____

personally or by some one specially appointed by the said (d) _____

_____ once at least in every six months while under care and treatment under this Order, hereby authorise you to receive the said _____

(e) Asylum, *or* hospital, *or* house, *or* as a single patient.

as a Patient in your (e) _____

And I declare that I have [*or* have not] personally seen the said _____

before making this Order.

Dated this _____ day of _____ 19

(Signed) (a) _____

A Justice for *appointed under the above-mentioned Act* [or *the Judge of the County Court of* or *a Stipendiary Magistrate*].

(f) *To be addressed to the medical superintendent of the asylum or hospital, or to the resident licensee of the house in which the patient is to be placed, or to the person in charge of a single patient.*

To (f) _____

LUNACY 3.

Form of Urgency Order for the Reception of a Private Patient, with Medical Certificate and Statement accompanying Urgency Order

---

I, the undersigned, being a Person Twenty-one years of age,

(a) House, *or* hospital, *or* asylum, *or* as a single patient.

hereby authorize you to receive as a Patient into your (a)_____

(b) *Name of Patient.*

(b)_____

(c) Lunatic, *or* an idiot, *or* a person of unsound mind.

as a (c)_____ whom I last saw at

_____

(d) *Some day within two days before the date of the order.*

on the (d)_____ day of_____ 19

I am not related to or connected with the Person signing the Certificate which accompanies this Order in any of the ways mentioned in the Margin.(e) Subjoined [*or* annexed] hereto is a Statement of Particulars relating to the said_____

(e) Husband, wife, father, father-in-law, mother, mother-in-law, son, son-in-law, daughter, daughter-in-law, brother, brother-in-law, sister, sister-in-law, partner, *or* assistant.

(Signed)

[*If not the husband or wife, or a relative of the Patient, the person signing to state as briefly as possible:*—1. *Why the order is not signed by the husband or wife or a relative of the Patient.* 2. *His or her connection with the Patient, and the circumstances under which he or she signs.*]

Name and Christian Name at length - - - - _____

Rank, Profession or Occupation (if any) - - - _____

Full Postal Address - - _____

How related to or connected with the Patient - - _____

(j) Superintendent of —— the asylum, —— hospital *or* resident licensee of the —— house [*describing the asylum, hospital, or house by situation and name, or to the person in charge of a single patient.*]

Dated this_____ day of_____ 19

LUNACY, 4 and 2.

(53 Vict. c. 5, s. 11.)

To (f)_____

_____

STATEMENT OF PARTICULARS referred to in the Annexed Order

If any Particulars are not known, the Fact is to be so stated

[Where the Patient is in the Petition or Order described as an idiot, omit the particulars marked *]

The following is a Statement of Particulars relating to the said _____

Name of Patient, with Christian Name at length - _____

Sex and Age - - - - - - - - - _____

* Married, Single, or Widowed - - - - - _____

* Rank, Profession, or previous Occupation (if any) - _____

* Religious Persuasion - - - - - - - _____

Residence at or immediately previous to the date hereof - - - - - - - - - - _____

* Whether First Attack - - - - - - - _____

Age on First Attack - - - - - - - - _____

When and where previously under Care and Treatment as a Lunatic, Idiot, or person of Unsound Mind _____

* Duration of existing Attack - - - - - _____

Supposed Cause - - - - - - - - - _____

Whether subject to Epilepsy - - - - - _____

Whether Suicidal - - - - - - - - _____

Whether Dangerous to Others, and in what way - _____

Whether any near Relative has been afflicted with Insanity - - - - - - - - - - _____

Names, Christian Names, and full Postal Addresses of one or more Relatives of the Patient - - _____

_____

Name of the Person to whom Notice of Death to be sent, and full Postal Address, if not already given _____

Name and full Postal Address of the usual Medical Attendant of the Patient - - - - - - _____

(Signed) _____

When the Petitioner or person signing an Urgency Order is NOT the person who signs the Statement add the following particulars concerning the person who signs the Statement.

Name, with Christian Name at length _____

Rank, Profession, or Occupation (if any) _____

How related to or otherwise connected with the Patient ... ... _____

CERTIFICATE OF MEDICAL PRACTITIONER

In the matter of _____

(a) *Insert residence of Patient.*

of (a) _____

(b) County, city, or borough *as the case may be.*

in the (b) _____ of _____

(c) *Insert Profession or Occupation, if any.*

(c) _____

an alleged lunatic.

I, the undersigned _____

do hereby certify as follows :

1. I am a person registered under the Medical Act, 1858, and I am in the actual practice of the medical profession.

2. On the _____ day of _____ 19

(d) *Insert the place of examination, giving the name of the street, with number or name of house, or should there be no number, the Christian and Surname of Occupier.*

at (d) _____

(e) County, city, *or* borough, *as the case may be.*

in the (e) _____ of _____

I personally examined the said _____

(f) A lunatic, an idiot, *or* a person of unsound mind.

and came to the conclusion that he is (f) _____ and a proper person to be taken charge of and detained under care and treatment.

3. I formed this conclusion on the following grounds, viz. :

(g) *If the same or other facts were observed previous to the time of the examination, the certifier is at liberty to subjoin them in a separate paragraph.*

(a.) Facts indicating Insanity observed by myself at the time of examination (g) viz. : _____

_____

_____

(h) *The Names and Christian Names (if known) of informants to be given, with their addresses and descriptions.*

(b.) Facts communicated by others (h) viz. : _____

_____

_____

LUNACY NOS. 8 & 9.

(53 Vict. c. 5, ss. 11. 28, 29, 32 & 33.)

(*i*) *If an urgency certificate is required, it must be added here. Form No. 9.*

[(*i*) STATEMENT ACCOMPANYING URGENCY ORDER

I certify that it is expedient for the welfare of the said _____ [*or* for the public safety, *as the case may be*] that the said _____ should be forthwith placed under care and treatment.

My reasons for this conclusion are as follows :— _____

_____

_____

_____

_____

4. The said _____ appeared to me to be [*or* not to be] in a fit condition of bodily health to be removed to an asylum, hospital, or licensed house. (*k*)

(*k*) *Strike out this clause in case of a private patient whose removal is not proposed.*

5. I give this certificate having first read the section of the Act of Parliament printed below.

Dated this _____ day of _____

One thousand nine hundred and _____

(Signed) _____

(*l*) *Insert full Postal Address.*

of (*l*) _____

_____

ORDER FOR RECEPTION OF A PAUPER LUNATIC, OR LUNATIC WANDERING AT LARGE

I, _____ having called to my assistance _____ of _____ a duly qualified medical practitioner, and being satisfied that _____ of _____ is a pauper in receipt of relief, [*or* in such circumstances as to require relief for h proper care and maintenance] and that the said _____ is a lunatic or a person of unsound mind and a proper person to be taken charge of and detained under care and treatment, *or* that _____ is a lunatic, and was wandering at large, and is a proper person to be taken charge of and detained under care and treatment, hereby direct you to receive the said as a patient into your Asylum. Subjoined is a statement of particulars respecting the said _____

(Signed) _____
(A Justice of the Peace for the County of)

(Dated) the _____ day of _____ 19 ____

To the Superintendent of the Asylum for the County of _____

STATEMENT OF PARTICULARS REFERRED TO IN THE ABOVE ORDER

If any particulars are not known, the fact is to be so stated

[Where the Patient is in the Order described as an idiot, omit the particulars marked*]

The following is a Statement of Particulars relating to the said _____

Name of Patient, with Christian Name at length - _____
Sex and Age - - - - - - - - - _____
* Married, Single or Widowed - - - - - _____
* Rank, Profession, or previous Occupation (if any) - _____
* Religious Persuasion - - - - - - _____
Residence at or immediately previous to the date hereof - - - - - - - - - _____
* Whether first attack - - - - - - _____
Age on first attack - - - - - - - _____
When and where previously under Care and Treatment as a Lunatic, Idiot, or Person of Unsound Mind _____
* Duration of existing Attack - - - - - _____
Supposed Cause - - - - - - - - _____
Whether subject to Epilepsy - - - - - _____
Whether Suicidal - - - - - - - _____
Whether Dangerous to Others, and in what way - _____
Whether any near Relative has been afflicted with Insanity - - - - - - - - - _____
Union to which Lunatic is chargeable - - - _____
Names, Christian Names, and full Postal Addresses of one or more relatives of the Patient - - _____
Name of the Person to whom Notice of Death to be sent, and full Postal Address, if not already given _____

(Signed) _____
Relieving Officer of the _____ *Union*

Dated) the _____ day of _____ 19 ____

CERTIFICATE OF MEDICAL PRACTITIONER

In the matter of _____

of _____

in the County of _____

an alleged lunatic :

I, the undersigned _____

do hereby certify as follows :

1. I am a person registered under the Medical Act, 1858, and I am in the actual practice of the medical profession.

2. On the _____ day of _____ 19____

at _____

in the County of _____ I personally examined the said _____

_____

and came to the conclusion that he is a lunatic or a person of unsound mind, and a proper person to be taken charge of and detained under care and treatment.

3. I formed this conclusion on the following grounds, viz. :—

(A) Facts indicating insanity observed by myself at the time of examination, viz. :—

_____

_____

_____

_____

(B) Facts communicated by others, viz. :— _____

_____

_____

_____

4. The said _____

appeared to me _____ to be in a fit condition of bodily health to be removed to an asylum, hospital, or licensed house.

5. I give this certificate having first read the section of the Act of Parliament printed below.

(Signed) _____

of _____

(Dated) this _____ day of _____ 19____

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